

**EMOTION IN MIDDLE- AND
LATE-ADULTHOOD:
AN EXPLORATORY STUDY.**

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ABSTRACT

The major purpose of this exploratory study was to provide a general view of how certain aspects of emotional functioning may change during middle- and late-adulthood. The sample comprised 150 white, predominantly middle-class adults. Subjects were divided into three groups of fifty; 'middle-aged', 40-54 years, 'young-old', 55-69 years, and 'old-old', 70-91 years. The oldest group was further sub-divided into two groups, those aged 70-79 years, and those aged 80-91 years. The research instrument was a questionnaire consisting of Likert-type response items designed specifically for use in the current study. While analyses disclosed differences between the age groups on a number of aspects of emotional functioning they also revealed a number of similarities. Older people, even those aged over 80, did not report experiencing any more negative or any less positive emotions than their younger counterparts. There was also no indication that older people, at least those aged 55 to 70 years, experience less emotion overall. although when the oldest group was sub-divided it emerged that those over the age of 80 years reported experiencing every emotion except fear less frequently than their younger counterparts. Results revealed only a slight trend toward a lessening of emotional intensity with age, but suggested that there may be age-related differences in the intensity of a number of specific emotions. Subjects appeared to perceive the existence of age-related display rules concerning the expression of emotion, with older people perceiving these rules as being the most constrictive. These display rules appear to be emotion specific, primarily affecting negative emotions. Paradoxically, however, despite older people's perception of more constrictive age-related rules concerning emotional expression, they did not report placing any more control over the expression of emotion than younger individuals. Results were discussed in relation to theory and previous research and a number of directions were indicated for future research in the area.

CHAPTER ONE

INTRODUCTION

I. GENERAL INTRODUCTION

Over the last fifteen years interest in the study of emotional development has increased dramatically and there is now a considerable amount of theory and empirical research on the developmental course of emotion over the first few years of life. Unfortunately though, very little attention has been paid to any stage past adolescence. Consequently there is only a limited amount known about emotion processes in adulthood, and almost nothing known about emotion in old age.

However, despite, or perhaps because of, the lack of empirical information about the emotional life of the aged there are some quite firm and very negative opinions about the subject. Many people see old age as a time of depression and dejection and adjectives such as 'grouchy', 'touchy', and 'cantankerous' (Palmore, 1980), and 'tired', 'cranky', and 'passive' (Green, 1981), are commonly used to describe the way elderly people are considered to feel. Unfortunately, this popular notion of old age as a time of increasing emotional distress has been reinforced by the attitude of mental health professionals. Typical of their views are statements such as: "...depression escalates decade by decade" (Mental Health and the Elderly, 1978, cited in Feinson & Thoits, 1986, p 225) and "emotional distress is higher among those over 65 than in the general population" (Report to the President, 1978, cited in Feinson & Thoits, 1986, p 225).

Overall there seems to have been an unquestioning acceptance, by lay-people and professionals alike, that the experience of emotional distress becomes more frequent as people grow older. Such generalisations about the emotional condition of the elderly can often lead to stereotyping and prejudice, which in turn tends to encourage or excuse discriminatory behaviours towards elderly people. For example, the widely held belief that as people grow older they become simultaneously more emotionally distressed interferes with the mental health care of the elderly by providing professionals in the field with a means of justifying their lack of interest in the mental health needs of older people. Doctors and mental health professionals tend to view emotional distress, when it occurs in an elderly

patient, as simply a concomittant of the aging process, and thus essentially untreatable.

This pessimistic outlook is reflected in the results of a study by Settin (1979, cited in Schaie & Willis, 1986) which showed that even when young and aged clients were *matched for symptoms*, the elderly clients were rated as more severely 'pathological' and a successful outcome to the planned intervention (psychotherapy) was considered to be less likely. Similar findings were reported in a study by Straker (1983), which showed psychiatrists to give much poorer prognoses to older people than data on real prognoses support.

Such an attitude has led to a reluctance to use psychologically oriented treatments to deal with the mental health problems of the elderly and a tendency to fall back on somatic treatment methods (Wilensky and Barmack, 1966; Dye, 1978). This is an unfortunate trend since almost all elderly patients with emotional problems, even those with chronic brain disorders, can benefit from psychotherapy (Schaie & Willis, 1986).

As can be seen from the above discussion, the widely held assumption that there is some sort of shift in the way people experience emotion with age has some quite serious practical implications. However, the question of whether there is emotional change with age is also important at the theoretical level. Theoretical treatments of emotion when viewed from a lifespan perspective appear to reflect an acceptance of a biologically oriented model of growth and decline; stressing differentiation and elaboration of the emotions in infancy and childhood (Izard, 1978; cited in Malatesta & Kalnok, 1984; Sroufe, 1979), and predicting conservation, constriction, and blunting of emotion, along with a drift towards the predominance of negative affect in later life (for eg., Banham, 1951; Tomkins, 1962, 1963). Attempting to discern whether such changes in emotional experience and expression do occur over the adult years would provide a much needed test for this biologically oriented model of lifespan emotional development.

This question may also have important implications for the way in which we view the aging human organism in general. Most personality/emotions theorists view emotion as a subsystem, or even a primary determinant of many other aspects of personality - including self-concept, motivation, mood, cognitive style, and traits such as introversion/extraversion (cf. Epstein, 1979; Kellerman, 1983; Tomkins, 1981). If emotion plays as important a role as these theorists suggest then any changes which

occur in emotion processes as people age should, by implication, affect personality development.

In order to discuss the issue of emotion across the lifespan the following introductory section is organised as follows: Part I is concerned with theoretical formulations which have a bearing on the issue of emotion across the lifespan. Theories from the psychodynamic, the gerontological, and the emotions literature are discussed in terms of the predictions they offer, and the questions which they raise, concerning the experience and the expression of emotion in adulthood and old age.

In Part II empirical research which concerns the issue of emotion across the life-span is reviewed, and the results of these studies discussed in with regards to the possible answers they may provide to the questions raised in Part I. In this section four main areas of research are dealt with. Firstly, early projective test studies concerning emotionality and aging are summarised briefly, then the research which has attempted to determine the effect of age on 'subjective well-being' is discussed. This is followed by a brief summary of those studies which deal with the question of whether depression and emotional distress are more prevalent in the elderly. Finally, studies which look more specifically at the issue of emotion change across the lifespan, and which directly address several of the questions raised by the above-mentioned theoretical formulations, are reviewed and discussed.

In Part IV the rationale for the current study is introduced. In this section the questions addressed in the current study are outlined and methodological issues are discussed.

II. THEORETICAL PERSPECTIVES

2-1. Psychodynamic/Psychoanalytic Theory.

Due in part to the fact that the emotions are a fundamental aspect of psychoanalytic theories of adult psychopathology, formulations about the emotional dynamics of the aging process can be found throughout the psychoanalytic literature.

Those who take the Classical Fruedian viewpoint suggest that there is a lessening of ego and superego controls in the elderly, and that emotionally people become increasingly dependent, childish, and

egocentric as they age (Berezin, 1963; Kaufman, 1963; Linden, 1963; Zinberg, 1963).

The ideas of ego-analysts such as Hartman (1951), Rapaport (1951), and Lustman (1957) paint a similarly negative view of the emotional dynamics of the aging process. According to these theorists, the energy of the ego is available for dealing with stimuli arising from within or outside the individual. If excitations from within take precedence over those from without, internal disturbances will command the bulk of ego energy. The result of this is that there is much less energy available for dealing with the outside world. Malatesta (1981) suggests that these ideas imply that the decrease in vigour which accompanies advancing age should result in increasing introversion, egocentricity, and a decline in effort expended towards interpersonal relationships.

This is a similar view to that taken by Jung (1960), who suggests that young people are much more oriented towards the external world than older people, because they are choosing mates, and careers, and generally making a place for themselves in society. Older people are seen as being relatively free from such pressures, and because of this they tend to turn their energies to exploring their internal worlds. This position has the same implications for the elderly as the ideas of Hartman (1951), Rapaport (1951), and Lustman (1957).

Another psychoanalytically oriented theorist whose ideas have a bearing on predictions about adults' emotional development is Erikson (1963, 1979, 1982)), whose eight analytically distinct stages of psychosocial development encompass the life-span. His model is one of recurrent crises involving developmental dilemmas. If these crises are not successfully resolved emotional disturbances may result, which can often take the form of depressive reactions. The final years of life, in Erikson's view, mark the time of what he calls the "integrity versus despair" crisis (Erikson, 1963). At this time people tend to look back over their past life in the attempt to make sense of it, and to integrate it into a meaningful whole.

According to Erikson the accumulated experiences of a person's life will predispose him/her towards feeling either a sense of 'ego-integrity' or of 'despair'. Ego integrity refers to an integrity achieved through acceptance of one's past life, an acceptance of other people, and a proclivity for order and meaning. Reaching a state of ego integrity implies the accomplishment of an emotional integration. If this final ego-integrity is not achieved

'despair' takes over, bringing with it a fear of death. The attempt to use disgust to ward off this despair implies the lack of, or loss of ego integration.

This view of development is a departure from previous models because it makes an attempt to take individual differences into account, suggesting that people's past life experiences, and the ways in which they dealt with them, may have an influence on the way they experience emotion in their present life.

2-2. Gerontological Theory.

Research and thought generated by the debate between the proponents of two opposing theoretical viewpoints from within the gerontological literature, 'activity theory' (Havighurst & Albrecht, 1953; Lemon, Bengston, & Peterson, 1972) and 'disengagement theory' (Cumming & Henry, 1961) has added immensely to our understanding of the process of aging and also provides some ideas as to what might be expected regarding to the emotional dynamics of the aging process.

Disengagement theory (Cumming & Henry, 1961) suggests that old age is a time to slow down and enjoy life, a time when activities should be curtailed and friends/social contacts should be cut down to a manageable number. Along with social withdrawal comes an "increased preoccupation with the self and a decreased emotional investment in persons and objects in the environment" (Havighurst, Neugarten, & Tobin, 1968, p. 161). In this sense disengagement is seen as a natural process and, as such, an inevitable one.

The disengagement thesis maintains that high satisfaction in old age is usually present in those individuals who accept the inevitability of the reduction in social and personal interactions. Older people are hypothesised to *prefer* fewer interactions with people, and also to prefer any interactions which they do retain to be "non-obligatory, non-instrumental, and non-productive of intense, enduring affect" (Dean, 1962, p 442).

These ideas lead to a similar conclusion to the one implied by the psychoanalytic theorists, that old age is a time of turning inward and of becoming less involved with the outside world. All this carries with it the implication that old people are less 'emotional' (at least overtly) than their younger counterparts.

Activity theory (Havighurst & Albrecht, 1953; Lemonet al., 1972), on the other hand, maintains that elderly people have the same psychological and social needs as younger people and naturally seek

association with others, although this is often made difficult due to such events as retirement, loss of spouse/friends, and loss of physical/sensory abilities.

It is suggested that in order to avoid the morale problems which may result from such losses people must keep active, continually finding new interests to replace work, and new friends to replace those they have lost. Most of the research stimulated by the debate between the two viewpoints has supported activity theory, with many studies showing a sizeable correlation between social engagement and satisfaction (eg., Longino & Kart, 1982; Reichard, Livson, & Peterson, 1962).

What implications does activity theory have for emotion in old age? Firstly it makes the point that older people have the same emotional needs as everyone else, a direct contradiction of the long-standing idea that to be old means to 'feel' differently. Secondly, the proposal that everyone who is still 'involved' in life would experience predominantly positive affect, while those who are not would experience more negative affect, suggests that many older people may be quite unhappy because they are often unable to participate in social and recreational activities due to circumstances outside their control (eg., lessened physical mobility, sensory disabilities, financial difficulties, etc.).

2-4. Emotions Theory

Physiologically Based Theories: While most theories of emotion consider that the activation of physiological systems is in some way correlated with the experience of emotion, a number of them take the position that such activation plays the principal role in determining the way that emotions are experienced (Arnold, 1970; Gellhorn, 1964; Lindsley, 1957; MacLean, 1970; Panksepp, 1982; Papez, 1937). Strongman (1987), after reviewing these theories, concludes that "we can be certain that the brain-stem, the thalamus and the hypothalamus, the limbic system and, to an extent, the neocortex are implicated in emotion" (Strongman, 1987, p. 85). He also emphasises that endocrine changes and underlying neurochemical changes play a role in emotion. All this has considerable implications for the experience of emotions in adulthood and old age, especially if there are found to be age-related changes in those specific areas of the brain thought to be important in emotion, and in the neurochemicals which act on them.

The hypothalamus is one emotion-linked structure that exhibits a number of changes with age. For example, animal studies have revealed a

series of deteriorative cellular changes in the hypothalamus (Machado-Salas, Schiebel, & Schiebel, 1977; Sabel & Stein, 1981) which appear to be age-related. It is highly possible that such changes may also occur in humans, and, due to the posited importance of the hypothalamus in emotion, such deterioration may have some negative implications for the experience of emotion in old age. However, because it is still not known just how disruptive such deterioration would be to the general functioning of the hypothalamus, it is difficult to make such a statement with any certainty.

A number of biogenic amines, most importantly Norepinephrine (NE), dopamine (DA), and serotonin (5-HT), have been implicated as having an important role to play in the experience of emotion. These three amines are involved with the limbic structures that are thought to regulate drives and emotions, and are hypothesised to be generally involved in the genesis of emotion experience. Norepinephrine, for example, is thought to play a major role in the pathogenesis of mood disorders and there is evidence to suggest that a deficiency of NE is related to depression, and an excess of NE is related to mania.

If there was a change in the quantity of these amines with age then there may also be a corresponding change in the experience of certain emotions with age. Animal research indicates that the quantity of these three amines are decreased in the senescent brain (Bondareff, 1980; Carlsson & Winblaud, 1976; Finch, 1973; Simpkins, Mueller, Huang, & Meites, 1977) and research with humans has supported this conclusion (Adolfsson, Gottfries, Oreland, Roos, & Winblad, 1978; Robinson, Nies, Davis, & Davis, et al., 1972). If such a decrease in the quantity of NE, DA, and 5-HT does occur with age then there may also be a corresponding change in the experience of certain emotions with age. This implies that there may be some shift, assumedly in a negative direction, in the way emotion is experienced in later years.

Banham (1951): Banham's (1951) theory of 'senescence and the emotions' assumes that the aging process is accompanied by rigidity, inflexibility, and narrowing of range of response and maintains that these characteristics are manifest in affective behaviour as well as in motor performance and thought. In order to explain this posited diminution in affective adaptability in old age it is suggested that emotional organisation in later life undergoes "a certain amount of consolidation, constriction, and disintegration" (Banham, 1951, p. 177). Older people are said to have a

limited number of relatively unchangeable emotional responses, and the point is made that the emotions of older people are characterised by a paucity of affective energy.

In addition Banham (1951) suggests that this reduced affective sensitivity and changeability may actually be a helpful factor in adjustment to old age, suggesting that it helps people to accept the privations of old age without the emotional turmoil that such conditions would provoke in younger people. This position closely parallels that taken by Cumming and Henry (1961).

Tomkins (1962, 1963): A number of points from Tomkins' (1962, 1963) theorising have implications concerning emotion in adulthood and old age. Firstly, his proposal that people's adaptation level for emotion arousing events will be higher the greater the number and variety of similar stored emotional experiences they have implies that older people may be more difficult to arouse emotionally, and that any emotions they do feel may be less intense due to their habituation to commonly occurring situations.

Secondly, he claims that humans are responsive to circumstances which activate the varieties of positive and negative affect, and are urged to attempt to control the circumstances that evoke these affective responses in order to maximise positive affect and minimise negative affect. It is possible to infer from this that older people might experience more negative emotions because they are often not in a position to 'control their circumstances' due to a diminution of available resources.

A third point from Tomkins' (1962, 1963) writings suggests that older people may be less overt in their facial expression of emotion than younger people. He posits that as people grow older they learn to 'miniaturise' their emotion expressions (i.e., compress them almost to the point of invisibility) as a means of avoiding the spreading of emotion from one person to another. This formulation implies that emotional development consists, at least in part, of learning to modulate affective expression in accordance with social mores.

Izard (1977): One of the proposals of Izard's (1977) *differential emotions theory* is that the way in which we experience emotions is largely determined by patterned feedback from the muscles of the face. Another proposal from this theory is that as people grow older they learn to moderate their facial expressions in response to socialisation pressures, and cultural norms which act to encourage the suppression of overt displays of

emotion (1971, 1978). Considered in conjunction these two hypotheses suggest that as people grow older the experiential aspect of emotion may become less intense. It seems possible to infer from this that if someone is less facially overt they would receive less feedback from the face and so consequently would experience a less intense emotion.

Also, if it is considered that facial expressions are inhibited according to cultural norms, in other words that there are rules which govern when and where one may or may not express particular types of emotion, it seems entirely possible that these rules may differ not only between children and adults, but also between young, middle-aged, and elderly people. We do know that there are age norms regarding such things as dress, social behaviour, and the timetables for ordering major life-events (Neugarten, Moore, & Lowe, 1968); why not for the expression of emotion?

Kemper (1978): Kemper (1978), in a sociologically oriented analysis of emotion, asserts that "events in the social environment instigate emotion" (1978, p. 62). He believes that people relate via two social dimensions of actual and expected power and status; with 'power' implying the ability to overcome the resistance of others when they do not wish to comply, and 'status' referring to the compliance that people voluntarily accord to one another unaccompanied by threat or coercion. The assumption is that all social relations can be located in a two-dimensional power-status space, and that changes in social relations may be understood as changes in the power and status positions of the people involved.

From this standpoint he proposes that "a very large class of human emotions result from real, imagined or anticipated outcomes in power and status relations" (Kemper, 1978, p. 43). He suggests that "combinations of excesses, adequacies, and insufficiencies in one's own power and status can lead to the six structural emotions of security, guilt, fear/anxiety, happiness, shame, and depression, if another persons' power and status are also considered then anger and contempt are added to the list" (Strongman, 1987, p. 47). He concludes that if we wish to predict or understand the occurrence of many human emotions we must look at the structure and process of power and status relations between people. It is possible to imply from these ideas that older people might be prone to more negative emotional states since they are often in positions of lessened power/status in many situations.

Solomon (1980): Solomon's 'opponent process' model of emotion has considerable implications for predictions regarding emotion in old age.

Firstly this theory states that people habituate to good/bad experiences, which means that these will cause less happiness/unhappiness than they did when they were first experienced. This implies a lessening in the force and value of affective experience as people become older. Because older people have lived longer they will have become more habituated to a greater number of potentially emotion eliciting events and so will, according to Solomon, experience less of an emotional reaction to them.

The crux of this theory, however, is the idea that the effect of the loss of an emotion eliciting object/experience will be greatest after habituation. For example, good experiences may lose their power to produce happiness with repeated exposure, but because of this repeated exposure their loss will produce greater unhappiness. This idea has very negative implications for the emotional state of the elderly.

Because the elderly have lived longer than most people, they will have become 'habituated' to the positive experiences/objects of everyday life (e.g., job, physical ability, independence, spouse, friends, &etc.) and so will not gain much pleasure from them; losing them, however, would cause considerable unhappiness. Given the fact that such losses tend to occur more frequently with age, one would expect a higher incidence of negative affect states. As one grows older the number of new positive events tends to decrease, while the number of 'losses' increase.

Izard and Malatesta (1984): Izard's (1977) differential emotions theory has led to the formulation of a theory of emotional development which, unlike most such theories, takes the entire life-span into account rather than just the childhood years. The theory is based on the assumption that the emotions form a system that is independent of, but interrelated with, physiological, behavioural, and cognitive systems. Emotions are considered to be made up of three component parts - neurochemical, motoric-expressive, and mental processes; with each individual emotion having unique motivational and adaptive functions. The theory is presented as sets of postulates regarding the development of each of the three components of the system. In the following section, however, only those postulates which provide some ideas about what might be expected to occur regarding the expression and experience of emotion in old age will be discussed.

The first three postulates deal with the neurophysiological component of emotion, with postulates 1 and 2 having implications for adult development. Postulate 1 states that "Each fundamental emotion has

its own distinct neural substrates, though it may share some brain structures with other emotions." Bearing in mind that there is considerable biological evidence that certain degenerative processes occur in the aging brain this postulate implies that such 'degeneration' would have an effect on the experience/ expression of emotion, probably in a negative rather than a positive direction. In addition it suggests that if such degeneration was area specific rather than general, then experience/ expression of some emotions may be 'changed' more than others.

Postulate 2 states that "The neurological growth processes of canalization and plasticity account for the invariance and developmental changes, respectively, in the developing emotion system". The concept of 'developmental plasticity', a species-typical characteristic which permits the development of the control of certain emotional expressions in accord with social conventions, allows for the admission that emotional 'change' and 'development' can still occur after infancy, and may, in fact, continue throughout the life-span. It makes possible the idea that a person never really 'finishes' developing emotionally, since there is always the ability to change with changing circumstances. This idea is explored in more detail in postulate 4.

There are considerable implications for adult emotional development inherent in the second set of postulates, which deal with the expressive component of emotion. Postulate 4 states that "Expressive behavior undergoes functional changes, developmentally, in two notable ways. First there are obvious changes in the kinds of events and situations that can elicit emotions. Secondly, there is a shift from the predominance of reflexive movements to expressive behavior based on enculturation and learning." When discussing this second point, the authors stress the idea that emotion beyond infancy is, to a certain extent, transactional; that is, it becomes an instrumental behaviour at the service of social goals. They go on to suggest that the ways in which emotion is used instrumentally could change throughout the adult years.

Postulate 5 states that "Formal age-related changes in expressive behaviour involve the gradual shift from canalized expression that has an all-or-none quality to the more modulated form of expression seen later in development.". In sum, this postulate suggests that as people age they may express their emotions less overtly, with blends and miniaturised expressions being much more common in adults than in children. The

authors comment that such techniques assist in the use of emotion to gain social ends.

However, Izard and Malatesta (1984) also state that this lessening in the overt expression of emotion may not continue into old age. They suggest that while conformance with social conventions regarding emotion control may be very important for young and middle-aged adults, when "close and frequent interactions with a variety of other adults in important work and family related matters call for minimizing the chances of interpersonal friction" (Izard & Malatesta, 1984, p. 21), such conformance may not be so important for older people who have less to lose by the overt expression of their emotion. Thus the need to modulate emotion expression in order to gain social ends which exists during young and middle-adulthood may not exist, at least not to as great an extent, in old age.

Postulate 6 states that "The regulation of emotion expression serves important personal and social functions; for this reason instruction in emotion regulation begins early in life and presumably continues throughout childhood." The authors comment on how important the ability to modify emotion expression is, both for self-management of feelings, and as a means of promoting harmonious social interactions. It is the suggestion that expression management is a means of regulating feelings that has the most bearing on predictions about emotion in later life.

The position of these authors, the same as that taken by differential emotions theory (Izard, 1977), is that feedback from the muscles and skin of the face plays a significant role in the subjective appreciation of emotion feeling. However, Izard and Malatesta (1984) go one step further than Izard (1977) and formally state that due to this hypothesised relationship between facial muscle patterns and emotional feelings the regulation of emotion expression may have a direct effect on the way in which emotion is experienced.

From this position they conclude that socialisation or cultural shaping of emotion expressions is equivalent to the shaping of emotion experiences and emotional life in general. This has obvious implications for the experience of emotion in adulthood and old age, bearing in mind that the authors suggest emotional expression to be less overt as people mature. Also their suggestion that in old age social constraints may lessen and allow more overt expression of emotion implies that emotional

experience may follow a U-shaped trend in intensity, with the most emotional intensity being experienced during childhood and old age.

The last six postulates deal with the experiential aspect of emotion. Probably the most important idea among these for the aging human is Postulate 10, which states that "The essential quality of an emotion feeling is invariant over the life-span." Emotion 'feeling' is defined here as a direct derivative of certain neuro-chemical/sensory processes, not necessarily requiring cognitive transformation or representation. What they are saying here is that the basic *feeling* is unchanged. The experience of feeling sad remains the same, the experience of feeling happy remains the same; elicitors of, expression of, and thoughts about the emotion may have changed but not the actual feeling itself. It has long been implied, if not overtly stated, by theorists and researchers that the essential quality of emotional experience is somehow different in old age, this postulate forces us to question this assumption.

Socioanalytically Based Theory. Hansson, Hogan, and Jones' (1984) socioanalytic conceptualisation of affective processes in later life presents a number of predictions concerning the relationship of emotional functioning with the process of growing old.

According to socioanalytic theory (Hogan, 1982) the major goal in life is to negotiate the most advantageous identity one can, given the constraints of the social environment. Over time people develop self-images which they would like others to believe, and internalise the expectations of significant others, acting in order to earn their praise. Because of these self-images and reference groups people's interactions largely consist of "self-presentations or stylised role performances that attempt to project the desired image" (Hansson et al., 1984, p. 197).

It follows that such self-presentations, being mainly reflections of social consensus, would change as social demands change, and thus would change as people move through the various stages in the life-span. Because socioanalytic theory regards emotional behaviours and competencies as social responses, the changes in social demands which inevitably accompany aging would also have implications for people's emotional functioning.

Old age is a time of general and systematic role contraction, with elderly people losing many of the 'roles' they have played throughout their adult life (Rosow, 1976). Hansson et al. (1984) suggest that this has important implications for emotion in old age. Firstly, because older

people are less actively involved with other adults they will be faced with fewer normative expectations coming from the group and so should be "under less pressure to negotiate their identities or public self-images with important others". (Hansson et al., 1984, p. 204).

Secondly, as people grow older other people become less and less important as sources of reward. This occurs as the criteria for evaluating one's self worth (which are the products of social consensus) become less relevant due to the fact that they are no longer tied to important role enactments within the social group. Hansson et al. (1984) suggest that this leads to a decreasing social responsiveness with increasing age and, by implication, a decreasing emotional responsiveness.

Hansson et al. (1984) hypothesise that the age should bring with it a "flattening of personality profiles and emotional portrayals, and eventually competencies" (Hansson et al., 1984, p. 205). As people age they have a decreased need to negotiate a positive identity with their social group, and thus no longer need to retain a repertoire of adaptive emotional competencies, or to maintain emotional control.

2-4. Summary and Conclusions.

It is clear that a number of predictions concerning the possibility of age-related changes in the experience and the expression of emotion across the lifespan are implicit in the theoretical formulations discussed above. Predictions regarding changes in the experiential aspect of emotion seem to fall into two main categories; those concerning the frequency with which various emotions occur across the lifespan, and those concerning the intensity with which these emotions are experienced by people of different ages. Predictions regarding changes in the expressive component of emotion are mainly concerned with the possibility that norms and rules imposed by society may have a considerable effect on the ways in which emotion is expressed throughout the adult years.

The majority of theoretical formulations which have a bearing on predictions about emotional 'development', at least until recently, imply that any changes occurring in the expression or the experience of emotion during the adult years will be in a negative direction. Early psychoanalytic theories predict increased egocentricity and introversion, and a decline in the amount of emotional energy available for dealing with the outside world. This suggests a lessening in the frequency of the experience of a number of emotions, since a decrease in emotional interaction with other

people may result in a concomittant decrease in the experience of more 'social' emotions such as love, hatred, shame/embarrassment, guilt, and sympathy. These predictions also imply a lessening in the overall intensity of emotional experience, due to the posited decline in 'emotional energy'.

Gerontological theories have similarly negative implications for elderly people. Disengagement theory, like the psychoanalytically based theories, suggests that old age is a time of turning inward, and of becoming less involved with the outside world and carries with it the same implications of a decrease in the frequency of people oriented emotions, and in the intensity of emotions overall.

Activity theory is somewhat more positive, in that it refutes the long-held belief that elderly people do not have the same emotional needs as younger people. However, in making the case for the importance of 'keeping active' in the maintainance of emotional satisfaction through to old age, this theory predicts that those older people who are unable to participate in social and recreational activities due to circumstances outside their control would experience predominantly negative affect.

Theorists working in the field of emotion, with the exception of Izard and Malatesta, also have very little of a positive nature to say about the experience of emotion in adulthood. Physiologically based theories, for example, with their stress on the importance of biological mechanisms in the genesis of emotion experiences, imply that emotional development will follow a biologically based pattern of growth and decline. The formulations of the more general emotions theorists suggest that the frequency of negative emotional experience will increase (Kemper, 1978; Solomon, 1980; Tomkins, 1962, 1963) and the intensity of both positive and negative emotions will decrease (Banham, 1951; Izard, 1977; Solomon, 1980; Tomkins, 1962, 1963) as people grow older. Socioanalytic conceptualisations of emotional functioning in later life predict that as people grow older they become less emotionally responsive (Hansson et al. , 1984).

Theories from the emotions literature also provide some indication of what might be expected to occur regarding the expressive aspect of emotion as people become older. Both Tomkins (1962, 1963) and Izard (1977) suggest that as people mature they must learn to moderate their facial expressions in response to socialisation pressures and cultural norms which act to discourage overt displays of emotion. It is further suggested by Izard (1977) that if there are rules which govern when and where one may or may not express particular types of emotion, then these rules may differ not only

between children and adults, but also between young, middle-aged, and elderly adults.

Izard and Malatesta (1984) also suggest that a change in the way in which emotion is expressed/controlled may occur with age. These authors posit that because conformance to social rules regarding emotion control may not be as important for older people they may feel more able to be overt in the expression of their emotion than their younger counterparts. Hansson et al.'s (1984) socioanalytic conceptualisation of affective development across the life-span has similar implications for emotional expression in old age.

It should also be noted that Izard's (1977) and Izard and Malatesta's (1984) ideas concerning changes in the expressive component of emotion with age also have considerable implications for how emotion may be *experienced* by the elderly when considered in conjunction with these authors' position that the way in which people experience emotions is largely determined by patterned feedback from the face. Izard's (1977) suggestion that as people grow older they learn to moderate, constrict, and sometimes hide their facial expressions in accordance with social norms would imply a lessening of emotional intensity with age. Conversely, Izard and Malatesta's (1984) suggestion that older people may express their emotions more overtly than younger people would suggest an increase in emotional intensity with age.

2-5. Questions Arising from Theory.

From the theoretical literature discussed above it is possible to isolate a number of specific questions concerning the expression and the experience of emotion across the life-span. These questions can be grouped into three main categories; those concerning age changes in the frequency of emotional experience, those concerning age changes in the intensity of emotional experience, and those concerning age changes in the control of emotion expression.

Questions concerning frequency of emotional experience

1. Do people experience more or less negative/positive emotion as they grow older?
2. If age changes do occur what specific emotions do they affect?
3. Do people experience less emotion overall as they grow older?

Questions concerning intensity of emotional experience.

1. Is there a change in the intensity of emotional experience as people grow older, and if so, in what direction does this change occur?
2. If there is a change in emotional intensity, is this change emotion specific or does it occur across emotion in general?

Questions concerning control of emotional expression.

1. Are there age-related "display rules" regarding the expression of emotion, and are these rules more or less constrictive for older people than for younger individuals?
2. Are these rules equally applicable to all emotions, or do they only apply to specific emotions?
3. Are there age-related differences in the degree to which people try to control their expression of emotion?
4. How much is the degree of control people exert over emotional expression related to their perception of age-related display rules?

There have been a number of studies carried out which have a bearing on the issue of emotion across the lifespan, and which, either directly or indirectly, address the above questions. In the following section this research will be reviewed, and the results of these studies will be discussed with regards to the possible answers they may provide to the questions arising from theory.

III. EMPIRICAL RESEARCH: LITERATURE REVIEW

3-1. Early Studies.

Most of the early work concerning emotion and aging is based almost entirely on studies employing clinical projective measures and is difficult to interpret due to a considerable number of methodological problems. Because a comprehensive review of this literature is provided by Malatesta (1981) only a brief summary of her conclusions is required here.

Results from studies which used the Human Figure Drawing measure (Lakin, 1956, 1958; Lorge, Tuckman, & Dunn, 1954) were interpreted by the authors as showing aged individuals to be more emotionally constricted and disintegrated, and to be lacking the full complement of emotions. The data were also used to support the suggestion that older people have a tendency to devalue themselves, and to experience feelings of hopelessness and apathy. In both these studies, however, the experimenters failed to control for possible perceptual and/or motor impairment in the aged sample. In addition, their subjects were institutionalised elderly, and so not representative of the general elderly population. The one study which avoided these two limitations (Saarni & Azara, 1977) failed to replicate the previous results, finding no differences between the older group and the two younger age groups.

Those studies which employed the Rorschach as a means of measuring emotional responsiveness (Ames, Learned, Metraux, & Walker, 1954; Chesrow, Wosika, & Reinitz, 1949; Davidson & Kruglov, 1952; Grossman, Warshowsky, & Hertz, 1951; Klopfer, 1946; Light & Amick, 1956; Orme, 1958; Prados & Fried, 1947) seem to indicate that older people show decreased capacity for emotional expressiveness. However, once again generalisation of these results is limited by the fact that most of these studies employed groups of institutionalised elderly people as their aged sample. Also, as is pointed out by Malatesta (1981) the Rorschach is the highest of all the projective measures on stimulus ambiguity and thus may confuse or fail to engage the attention of the older person due to its abstract nature.

Research which has used the Thematic Apperception Test (Rosen & Neugarten, 1960; Birren, Butler, Greenhouse, Sokoloff, & Yarrow, 1963) and the Emotion Projection Test (Birren et al. , 1963) in order to 'measure emotionality' appears to demonstrate that age brings with it decreased affect intensity and a decline in responsiveness to others. However, the results are subject to questioning due to the bias against the elderly subjects by the

choice of stimulus cards (younger people are portrayed almost twice as often as older people) which may cause subject/stimulus age interaction effects. Finally, a study by Lakin and Eisdorfer (1960) using the Reitman Stick Figures as a projective medium found that older subjects tended to use fewer affect words than younger subjects, but that they showed no difference in intensity of emotion expression. The results of this study were taken by the authors to indicate that the aging process is accompanied by a decline in 'affective energy' although they may actually have been the result of a difference between the older and the younger subjects in the ability to talk about their emotions.

At first glance the results of these studies appear to offer considerable support for a number of theoretical assumptions regarding emotion in the aged. However, after looking at the methodological limitations of this research more closely it becomes apparent that no firm conclusions can be drawn from the data. Also it must be noted that, because one of the most basic assumptions of projective type tests is that responses to stimuli are actual reflections of people's emotional experience, studies of this kind run the risk of confounding the expression of emotion with the experience of emotion.

3-2. Subjective well-being.

Another line of research which has a bearing on the issue of emotion across the life-span is that which looks at subjective well-being (SWB) ratings across various age groups. This literature covers studies that have used such diverse terms as 'happiness', 'satisfaction', 'morale', and 'positive affect', and is concerned with how and why people experience their lives in positive ways.

Early studies are as negative as the projective test studies in their predictions about the experience of affect in old age, concluding that older people tend to rate less highly on various measures of satisfaction and/or well-being than younger people (Alston & Dudley, 1973; Gurin, Veroff, & Feld, 1960; Phillips, 1967; Wessman, 1956). More recently, however, a number of researchers have found virtually no age effects (Alston, Lowe, & Wrigley, 1974; Andrews & Withey, 1976; Cameron, 1975; Costa & McCrae, 1988; Gross, Gross, & Seidman, 1978; Lieberman, 1970; Sauer, 1977; Spreitzer & Snyder, 1974), and several studies have actually found a positive correlation between age and satisfaction (Bortner & Hultsch, 1970; Cantril, 1965; Clemente & Sauer, 1976; Medley, 1980; Herzog, Rodgers, &

Woodworth, 1982)) suggesting that age may in fact be directly, rather than inversely related to SWB.

As is pointed out by Diener (1985), in his review of the SWB literature, there are a number of considerations to keep in mind when dealing with the results of studies in this area. Firstly, because some studies use narrow age ranges their correlations only reflect variations within those years. Secondly, many of the large-scale studies have been cross-sectional rather than longitudinal, and so may reflect cohort rather than age trends.

Another point to bear in mind is that not all the studies are concerned with exactly the same construct, and differences between them may reflect differences in the construct being tapped. For example, Campbell, Converse, and Rogers (1976) found that when they used a general well-being scale to ascertain how satisfied elderly people are there was a positive correlation between age and satisfaction, but that when they used a measure which only tapped one aspect of well-being ("reports of feeling happy") they found a decline in 'satisfaction' with age.

Costa, Zonderman, McCrae, Cornoni-Huntley, Locke, and Barbano (1988) offer a explanation for why conflicting findings such as those of Campbell et al. (1976) might occur. These authors suggest that the frequency and intensity of both positive and negative emotions decline with age, but because there is still the same balance between positive and negative affect it appears as if youthful levels of well-being are maintained as people age. Such global measures as satisfaction and the Index of General Well-Being would not pick up any decline in frequency and/or intensity of affect, whereas a more specific measure, (eg., "reports of feeling happy") which tapped only the positive or the negative component, might. Costa et al.'s (1988) results support their hypothesis, with older people scoring lower on both positive and negative affect, and yet showing no difference in global well-being. A study by Braun (1977) found similar results, with younger people reporting stronger levels of both positive and negative affect than older people. Although in this study older people were shown to have a greater level of overall well-being.

A final consideration to bear in mind when dealing with this literature is that most of the studies have not controlled for other factors that tend to co-vary with age (Cameron, 1975). For example, as is pointed out by Larson (1978), when controls are introduced for factors such as poorer health, reduced financial resources, widowhood, loss of friends, and decreased activity, all of which often accompany aging, the negative

relationship between age and well-being disappears. Of all these factors it is health that has been consistently found to be the most strongly related to subjective well-being, with self-rated health showing the strongest relationship to happiness and objectively rated health showing a weak, but still significant, relationship.

It is apparent then that the results of most studies in this area suggest either a slow rise in satisfaction with age, or no change at all, thus providing little support for theoretical predictions of increased experience of negative affect with age (Kemper, 1978; Solomon, 1980; Tomkins, 1962, 1963). Another suggestion from the results of this research is that positive and negative affect may be experienced less intensely by the elderly. The idea that older people experience emotion less intensely than younger people is in line with theoretical predictions which suggest emotional blunting with age (Banham, 1951; Cumming & Henry, 1961; Izard, 1977; Solomon, 1980; Tomkins, 1962, 1963).

3-3. Clinical Studies.

It has been suggested that older people are exposed to a number of life events which may make the occurrence of depression and/or emotional distress more likely for them than for their younger counterparts (Blazer, 1980; Klerman, Weissman, Rounsaville, & Chevron, 1980; Levin, 1969; Roth & Kay, 1956; Zung, 1980). If the prevalence of depression/emotional distress is, in fact, higher among the elderly than among other age groups then this may go some way towards supporting theoretical assumptions and popular opinions which suggest that old age is a time of emotional decline.

Unfortunately, however, evidence concerning this question is mixed, with there being great disparities among various estimates of the prevalence of depression and depressive symptoms in the elderly. A number of community surveys have found depression to be more prevalent among older adults (Blazer, 1982; Gallagher & Thompson, 1983), and many studies have found more depression, neuroticism, and unhappiness among aged persons, although these studies do not indicate large differences by age (Riley & Foner, 1968). On the other hand, a longitudinal study by Srole and Fischer (1980) found that mental health improved rather than deteriorated between the fifth and seventh decades of life, and the Duke Longitudinal Studies of Aging (Palmore, 1970, 1974) found little or no increase in depression with age.

This disagreement among investigators regarding the prevalence of depression and depressive symptomatology in the elderly is especially highlighted by Feinson and Thoits (1985, cited in Feinson & Thoits, 1986). The authors examined twenty epidemiological studies in which the rates of emotional distress and depression were reported for older adults. Rates for depressive symptoms were found to range from 11% to 28.3%, and rates for general distress were found to range from 6% to 36.7%. However, it was found that when distress was measured using more precise diagnostic instruments, the rate for depression was 6.6% and the rate for anxiety was 7.1%. In addition, an examination of conclusions regarding the distribution of psychological distress by age revealed that one third of the studies conclude distress increases with age, one third state that it decreases with age, and one third conclude that it is unrelated to age.

Another study by Feinson and Thoits (1986) used prevalence data from a 1980-1981 random probability sample of 476 elderly adults living in the community in order to determine whether there is an empirical base for the popular perception that emotional distress and depression are concomitants of the aging process. They also examined the sociodemographic correlates of psychological distress within this older population. Results indicate that prevalence rates for distress and depression are comparable with, or lower than, rates for younger age groups. The authors stated that when they examined their data in regression analyses, the relative unimportance of age became even more obvious. They concluded that their findings "warrant a revised perception of distress and aging, one that acknowledges that older adults who reside in the community are subject to similar degrees of psychological distress as younger aged cohorts" (Feinson & Thoits, 1986, p. 225).

It is apparent then that there is little agreement among the findings of the studies in this area, and it is suggested by a number of authors that this may be due to differences in the groups studied, the aspects of depression/distress that are measured, and the methods used to measure them (Blazer, 1983; Gurland, 1976; Silverman, 1968; Palmore, 1980). However, the empirical evidence certainly does not unequivocally support the popular opinion that depression and depressive symptoms increase with age. In fact, existing data seem to indicate that the elderly are not any more likely to be emotionally distressed or depressed than their younger aged counterparts.

3-4. Directly Related Research.

While the above studies challenge many of the more negative theoretical assumptions concerning emotion processes in adulthood and old age, they fail to provide the kind of data that are required to address some of the more specific questions raised by the theoretical formulations discussed in Section I.

The following section will be concerned with those few studies existing to date which look more directly at the issue of the experience and expression of emotion across the lifespan. The results of these studies will be considered under three main headings 1) Frequency, 2) Intensity, and 3) Emotion expression

Frequency. In this section findings relating to age changes in the frequency of people's experience of various discrete emotions, and of positive and negative affect in general will be discussed.

One of the first studies to directly address the frequency issue asked a panel of 200 adults, aged from 50 to 95 years questions concerning how often they experienced the emotions of irritation, anger, boredom, and loneliness (Dean, 1962). The author concluded from her results that the experience of irritation, anger and boredom decreases with age, while the experience of loneliness increases as people grow older.

A closer look at the data reveals that the reported decrease in the experience of irritation is linear, with less irritation being reported decade by decade, while for anger the decrease appears to occur abruptly at age 60. However, the data do not seem to support the author's claim that boredom decreases with age, revealing differences of only 1% between the two younger groups and the two older groups. In addition the data do not unequivocally support Dean's (1962) statement that the experience of loneliness increases with age. Although there is an abrupt increase in reports of this emotion for those aged 80 and above, people aged 70-79 years actually reported experiencing considerably less loneliness than those aged 60-69 years. Thus the results seem to indicate that there is a decrease in the frequency with which the four negative affect states of anger, irritation, loneliness, and boredom are experienced as people grow older.

The only other study to look at the frequency with which various emotions occur across the lifespan was carried out by Malatesta and Kalnok (1985). This study used a survey questionnaire consisting of 40 Likert-type and scaled unipolar response items as well as seven open-ended questions. Data from the 37 emotions questions were subjected to a principal

components analysis and seven factors were found to be theoretically meaningful. These were subsequently rotated to varimax criteria and used to create factor scores on which separate analyses of variance were carried out. The three factors relevant to the frequency question were positive affect, negative affect, and shame.

Results indicated that older people did not think their emotions had changed over the years in terms of becoming less frequent than they remembered in earlier years. In addition, analyses of variance applied to the factor scores showed that older people did not seem to experience any more negative emotion, any less positive emotion, or any more shame than their younger counterparts. Thus, according to these results both positive and negative affect retain the same degree of prominence in people's emotional lives throughout the life-span.

Finally, DeRivera (1984) addressed the issue of whether the overall frequency with which people experience various discrete emotions changes with age. His results indicated that some individuals reported experiencing a lot 'more' emotion than other people. However, no clear systematic age-effect for the frequency of emotional experience emerged. Some older persons reported that during their 70s and 80s they were much less emotional than in their earlier lives, while others said that they felt more emotion at that time in their life than ever before.

In summary, due to the small amount of research dealing with the issue of age-related changes in frequency of emotional experience it is difficult to draw any firm conclusions from the results of the studies discussed above. However, it is clear that the studies to date which attempt to address this issue do not unequivocally support the theoretical position that as people age they experience more negative affect, less positive affect and less emotion overall.

Intensity. In this section studies which relate to the question of whether there are age changes in the intensity of emotional experience will be discussed.

While the issue of age-related changes in the intensity of emotional experience was dealt with by the early projective test literature (see Section 3-1), it was first directly addressed in a study by Diener, Sandvik, and Larsen (1985). The authors assessed mood intensity across different age-groups using two measures; the Affect Intensity Measure (AIM, Larsen, 1984), and the General Behavioural Inventory (GBI, Depue, Slater, Wolfstetter-Kausch, Klein, Goplerud, & Farr, 1981).

The AIM taps how frequently subjects experience emotions (both positive and negative) of particular intensities in specified situations. The GBI assesses sub-syndromal or pre-morbid behaviour characteristics which indicate a propensity to develop bi-polar affective disorder. A person scoring highly on the GBI endorses items pertaining to symptoms of mood disturbances, particularly cyclothymia, hypomania, and depression.

Results indicated that emotional intensity decreased with increasing age for both males and females. Older subjects scored lower on both the AIM and the GBI than the younger subjects in both of the subject-samples, even though these samples differed in their overall affective intensity. The authors note that these findings rest on two measures of affect intensity that have been extensively validated with non-self-report criteria (AIM: Larsen, 1984; Larsen & Diener, 1984; Larsen, Diener, & Emmons, 1986a. GBI: Depue et al., 1981), and thus can be more safely interpreted as being a reflection of age trends in affect intensity.

The question of age-related changes in intensity of emotion was also included as part of Malatesta and Kalnok's (1985) study. The results of this study conflict with those of Diener et al. (1985), indicating that there is no change in intensity of emotional arousal as a function of age. However, in this study age changes in affect intensity were measured in a different manner, with respondents being asked whether they felt that their experience of seven basic emotions had become less intense than they remembered in younger years. Because people's memory for mood and emotion is somewhat biased (Larsen & Baggs, 1985; Larsen & Diener, 1987) it is possible that this method, which relies very heavily on memory, may be a somewhat unreliable indicator of age-related changes in emotional intensity.

One means of assessing emotional intensity which does not rely so heavily on memory is by measuring the intensity of feeling immediately after the direct manipulation of mood. This was attempted by Malatesta, Izard, Culver, and Nicolich (1987), within a study designed to assess the effectiveness of an emotion induction procedure for research on emotional communication in adults. However, it must be pointed out that there was still a reliance on memory in this experiment because the mood induction procedure used recollected personal emotion experiences as the emotion generating stimuli.

In this study young, middle-aged, and older women related emotional experiences following the mood induction procedure outlined

above. The subjects were then assessed on the intensity of their emotional experiences using an adapted version of Izard's (1972) Differential Emotions Scale (DES-Version 3). This scale consisted of ten fundamental emotions with their everyday synonyms. Results do not indicate that there is any change in emotional intensity between young adulthood, middle- age, and old age, providing support for Malatesta and Kalnok's (1985) conclusions, and disagreeing with those of Diener et al. (1985).

It seems then that the differences between the results of the Diener et al. (1985) study and the Malatesta and Kalnok (1985) study may not have been because of differing reliance on people's memories between the two measures used, although there was still a memory component involved in the mood induction study which may have had some effect on results.

There is, however, one major difference between the studies by Malatesta and her colleagues (Malatesta and Kalnok, 1985; Malatesta et al., 1987) and that of Diener et al. (1985) which may provide a possible reason why their findings conflict. Both Malatesta and Kalnok (1985) and Malatesta et al. (1987) required their subjects to rate emotional intensity directly, with questions asking for 'intensity ratings' to be given to different emotional states. Diener et al. (1985), however, tapped the construct in a more indirect fashion, there being no explicit instructions in either the AIM or the GBI which required respondents to specifically rate their level of emotional intensity.

In the AIM, for example, many of the items have clear situational referents, presenting a commonly occurring emotion-eliciting situation (e.g., succeeding at a small task, seeing a picture of a violent car accident) and inquiring as to the respondent's typical emotional response to such situations. It is possible that this method may actually give a clearer picture of true response intensity in real life situations, since it minimises the influence of global self-concept and social desirability (Larsen & Diener, 1985).

It is clear from the above discussion that, until more research has been done, no firm conclusions can be drawn concerning the question of age-related changes in emotional intensity. In addition, because there is no agreed method for tapping the construct of affect intensity it is difficult to determine whether the results of existing studies in fact reflect what they claim to. In terms of established reliability and validity though, the measures used in the Larsen and Diener (1985) study appear to be promising options, especially the AIM. Due to the less direct way in which the AIM

asks respondents about the intensity of their emotions it may provide a more honest indication of how intensely people feel and react in their day-to-day lives.

Control of emotional expression. In this section studies dealing with age-related changes in the degree of control people exert over their emotional expression and their perception of age-related societally imposed rules concerning emotional expression will be discussed.

One of the first studies to deal with the issue of age-related changes in the control of emotional expression was carried out by Malatesta (1982) as a pilot study for a larger scale investigation (Malatesta and Kalnok, 1985). The study involved the use of an affect survey instrument which consisted of scaled Likert-type items as well as several forced-choice items and open-ended questions. Several of these items dealt with respondents' awareness of and agreement/disagreement with the desirability of concealing certain emotions.

Results indicated that age differences were clearly in evidence, and further, that these differences were affect specific. A linear age effect was found for anger, sadness, happiness, interest, disgust, and shame, with older subjects showing more agreement than younger persons that people their age should hide such feelings. Malatesta (1982) concludes that there is a general sensitivity to display rules for the expression of emotion and that the degree of agreement/disagreement with these display rules varies according to the age of the respondent.

Malatesta (1982) was extended by Malatesta and Kalnok (1985). In this study the authors considered not only the question of whether there are display rules, and whether they are age-specific, but also the question of how much people's behaviour is actually governed by their awareness of these rules.

With regards to the first two questions the findings were similar to those of the pilot study, with the older group showing more agreement than either the middle-aged or the young group that people their age should conceal feelings of happiness, sadness, anger, and disgust. However, some differences concerning individual emotions did arise between the two sets of results - subjects in the pilot study included interest and shame among the emotions which they felt should be concealed, while those in the larger scale study did not.

Malatesta and Kalnok's (1985) results concerning the question of how much people's behaviour is actually governed by their awareness of

age-related display rules disclosed an interesting paradox. While older adults agreed more strongly than younger respondents that certain emotions should be concealed, they did not report any greater inhibition of the display of these emotions than the other two groups.

A within subjects analysis was carried out in order to clarify this result. Clear age differences emerged, reflecting high correspondence between awareness of display rule proscriptions and the practice of inhibiting emotion expression for young and middle-aged people, but a low correspondence for older people. The authors suggest that these results indicate older people to be less bound by social rules concerning emotion than younger people.

The above-mentioned studies all rely on subjective self-report measures in order to deal with the issue of age-related changes in people's emotional expressiveness. Research carried out by Malatesta and her colleagues makes use of a mood induction procedure (described above) in order to more 'objectively' determine whether older people tend to conceal or otherwise modulate affective expression more than younger people (Malatesta & Izard, 1984; Malatesta et al., 1987).

Malatesta and Izard (1984) suggested that adult modulation of emotional expression is achieved through three processes; masking, blending of different expressions, and miniaturisation of expression. Masking is a form of emotion modulation which involves either the adoption of a blank face to 'cover' an emotion, or the adoption of an expression which signals a different emotion from the one being experienced. Blending creates the impression of 'mixed emotions' in the observer due to the combining of elements of different discrete emotions simultaneously or in rapid succession. Finally, miniaturisation is the compression of an emotion expression to a point where it is almost invisible.

The results of this study showed middle aged and older subjects to engage in twice as much masking as younger subjects. The use of emotion blends was found to be common to all age groups, although the middle-aged and older groups were still more likely than the younger group to use blends. Miniaturisation, defined in this study as the 'fragmenting' of facial behaviour so that only one or two of the usual components of a particular expression occur, was also shown to happen more frequently in middle-aged and older adults than in their younger counterparts.

Malatesta et al. (1987) used the same subject sample and the same videotaped facial expressions as Malatesta (1984) but in this study decoders were asked only to judge the dominant emotion displayed by each of the individuals on the tape, and the intensity of this emotion. Results did not provide much evidence of age-related differences in parameters of facial expressivity. However, the authors stress that these results need to be examined more critically, stating that it is possible that an age effect involving some change in expressivity with older people may actually occur, but that statistical problems related to their use of an encoding-decoding paradigm may have obscured this effect (see Malatesta et al., 1987, pp 201-202). It should be noted also that caution must be exercised in interpreting the results of both the above studies due to the small size of the sample they used ($N = 10$ in each group).

As with frequency and intensity, due to the limited amount of research in the area, it is difficult to make any conclusive statements concerning the issue of age-related changes in the control of emotion and emotion expression. However, those studies which have been carried out to date strongly indicate that there *are* age-related display rules concerning the expression of emotion, and that these rules place more constrictions on the elderly than on younger and middle aged people. The above research also indicates that while older people perceive the existence of such rules they do not necessarily abide by them, and that they may actually express some emotions more freely than their younger counterparts.

3-5. Summary and Conclusions.

The results of the early projective test studies appear to offer considerable support for a number of the more negative theoretical assumptions regarding emotional functioning through the life-span. These studies indicate that elderly people are lacking in the full complement of emotions, and that the emotions they do experience are less intense, more negative, and more constricted in nature. However, as has been noted above, it is difficult to draw any firm conclusions from this research due to a large number of methodological limitations.

Most of the research dealing with subjective well-being in later life suggests either a slow rise in satisfaction with age, or no change at all, providing little support for the conclusions of the projective test studies, or for the theoretical prediction of an increase in negative affect with age. However, the results of these studies do suggest that emotion may be

experienced less intensely by elderly people than by younger people, providing support for a number of formulations from theory which predict an age-related lessening of emotional intensity (Banham, 1951; Cumming & Henry, 1961; Izard, 1977; Solomon, 1980; Tomkins, 1962, 1963)

While there is little agreement among the studies investigating the prevalence of depression and emotional distress among the elderly they nevertheless provide little support for the popular and theoretical opinion that depression and depressive symptoms increase with age. In fact they appear to indicate that the elderly are not any more likely to be emotionally distressed or depressed than their younger-age counterparts.

Due to the small amount of research directly relating to the issue of emotion across the lifespan it is difficult to draw any firm conclusions from the existing results. However, emotions research does provide some indication of what might be expected regarding changes in emotional functioning across the lifespan.

There is a strong indication that elderly people do not experience more negative affect, or less positive affect than younger people, and that they experience the same amount of emotion overall as their younger counterparts. There is also a strong indication that there are age-related display rules concerning the expression of emotion and that these rules place more constrictions on the elderly than on younger and middle-aged people. Unfortunately, research to date does not provide much information about what might be expected to occur regarding the intensity of emotion across the life-span.

It is apparent then that recent research does not present so bleak a scenario as that presented by theory and early projective test studies. However, one important point that must be borne in mind about this later research is that in most studies the samples of 'elderly' did not include many 'very elderly' people. In Malatesta & Kalnok (1984) the mean age of the oldest group was 65.97 years, ($SD = 8.15$) with the majority of this group being under 74 years of age. In Diener, Sandvik, and Larsen (1985) the oldest group's ages in their first sample ranged from 50 to 68 years. In Sample 2, while specific age information was not asked for by the authors, the 'older' age group were most probably aged between 40 and about 60 years because it was made up of the parents of the college-aged individuals who comprised the younger group. The individuals comprising the oldest group in Malatesta and Izard (1984) and Malatesta et al. (1987) were aged between 65 and 80 years ($X = 68.8$, $SD = 2.8$).

Subject samples in the less directly related research were also made up of 'young' elderly. The age ranges of those individuals making up the oldest groups in many of the subjective well-being studies were similar to those used in the above studies, and the majority of the 'elderly' included in the clinical prevalence studies were under the age of 75.

Thus it seems that researchers tend to consider anyone over the age of about 55 or 60 to be 'elderly', failing to take into account that this term covers thirty to forty years of the lifespan and that the differences between those at one end and those at the other are considerable. People over 55 can be divided into at least two age-stages, the 'young-old' and the 'old-old', with definitions varying with regards to the placement of the cut-off point (for eg., 70+, Matthew, 1979; 75+, Neugarten, 1974; 80+ Siegel & Hoover, 1982; 85+ Lopez & Hanada, 1982).

The young-old resemble middle-aged adults more than they do the old-old on many variables of physical and mental performance, as well as in dependency needs, financial situation, and social and recreational opportunities. The old-old group are characterised by greater loss of peers, increasing sensory and physical deficits, poorer health, and a narrower range of social and recreational activities. It is the old-old who most fit the traditional image of old age; it is they, far more so than the young-old, who must deal with the role losses and the numerous other difficulties commonly associated with being elderly.

It is possible that the two groups may also differ with regards to their emotional functioning, with the old-old perhaps conforming more closely to some of the negative popular and theoretical expectations concerning emotion in old age. Unfortunately, however, studies to date have not considered this possibility, viewing all individuals over the age of 60 as being part of one group and making generalisations about emotional functioning in 'old age' based on samples comprising mainly of young-old individuals.

IV. RATIONALE FOR CURRENT STUDY.

4-1. Aims of the Current Study.

The question of whether age-related changes occur in people's emotional functioning is an important one, at both the practical and the theoretical level. However, although many studies do provide some interesting indications of what kind of changes may or may not occur, there is a clear need for further research in the area. The current study is an attempt to meet this need.

The intention of this research is not, though, to make any definitive statements concerning age-related changes in emotion. Rather, its aim is to provide a general view of emotional functioning and how aspects of this may change during middle- and late-adulthood. Thus, no set hypotheses were formulated for the current study. Instead a number of questions which emerge as important from theory and research are raised and these are addressed with no preconceived notions about what the data may reveal.

Frequency of Emotional Experience. Theory suggests that older people may experience fewer positive and more negative emotions than younger or middle-aged individuals (Havighurst & Albrecht, 1953; Kemper, 1978; Solomon, 1980; Tomkins, 1962, 1963). The results of early projective test studies support these predictions and also suggest that they experience less emotion in general. However, as has been noted above, it is difficult to draw any firm conclusions from these studies not only because of their many methodological limitations but also because of the failure of subsequent research relating to the issue of emotions in adulthood to provide any support for their findings.

Age comparison research from the subjective well-being and the clinical fields, for example, show older people to be no less satisfied or happy than younger people and that they are no more likely to be emotionally distressed or depressed than their younger counterparts. Similarly, research from the emotions literature provides no evidence to suggest that as people age they experience more negative affect and less positive affect. In addition, unlike the projective test research, these studies fail to provide any support for the theoretical prediction that older people experience less emotion overall.

However, as has been pointed out in Section 3-5, most studies have not taken into consideration that 'old age' as a life stage covers thirty to forty years and that there are marked differences between those in the fifties and

sixties and those in the later years. It is possible that many of the theoretical predictions concerning the frequency with which positive and negative emotions are experienced in old age may hold true for the older elderly.

It is the old-old who must face the 'losses' which are hypothesised by a number of theorists to lead to increased experience of negative affect states. For example, it is the older elderly who are more likely to be in a position of lessened power or control over their environment, which, according to the ideas of Tomkins (1962, 1963) and Kemper (1978) would lead them to experience more negative affect. It is the older elderly who have become most 'habituated' to certain situations/people in their lives, and it is this age group who must most often face the loss of these situations/people, which according to Solomon (1980), would again lead to the experience of increased negative affect. The current study addresses the question of whether people experience more negative and less positive affect as they grow older and also considers the possibility that differences in the frequency of negative/ positive affect states and of emotion overall may not emerge until late old age.

If age changes in the frequency of experienced emotion do occur it would also be interesting to determine which specific emotions they affect. There are a number of predictions from theory concerning this issue. It is possible to imply from psychodynamically oriented theories (Hartman, 1951; Lustman, 1957; Rapaport, 1951), and from disengagement theory (Cumming & Henry, 1961), for example, that older individuals may experience the more 'social' emotions such as sympathy, love, hatred, envy/jealousy, and shame/embarrassment less frequently because of their lessened emotional investment in the outside world. Also, Kemper's (1978) ideas suggest the possibility that older people, due to a possible loss of their previous power and status through age, may feel more guilt, fear/anxiety, shame, and depression.

Because most of the research dealing with the issue of emotion across the lifespan has considered the subjective experience of emotion in terms of the two major dimensions of positive and negative affect this issue has not often been directly addressed. Any age-related differences which may occur in the frequency of specific emotions would not be picked up if people are only being asked about positive and negative emotions in general. Older people may, as the research suggests, be experiencing the same amount of negative/positive emotion in general as younger people, but they may be experiencing certain specific emotions more or less frequently than younger

individuals. It is one of the aims of the current study to address this issue directly.

Intensity of Emotional Experience. Most theoretical viewpoints suggest a lessening of emotional intensity with age (Banham, 1953; Cumming & Henry, 1961; Hartman, 1951; Izard, 1977; Lustman, 1957; Rapaport, 1951; Solomon, 1980; Tomkins, 1962, 1963). Early research provides empirical support for this suggestion (Birren, Butler, Greenhouse, Sokoloff, & Yarrow, 1963; Lakin, & Eisdorfer, 1960; Rosen & Neugarten, 1960) as do studies from the subjective well-being literature. (Braun, 1977; Costa et al., 1988).

Only three studies in the area of emotions research have considered this question and they show little agreement. Malatesta and Kalnok (1984) and Malatesta et al. (1987) conclude that there is no change in the intensity of emotional experience with age, while a study by Diener Sandvik and Larsen (1985), in agreement with theory and earlier research, concludes that people's emotions become less intense as they grow older. The present study plans to re-address the issue of age-related changes in emotional intensity, and also to bear in mind the possibility that emotions may be felt less intensely only by the 'very-old'.

The present study also addresses the question of whether any changes in emotional intensity which may emerge are emotion specific or if change occurs across all emotional domains. While no age-comparative studies have addressed this issue a study by Diener, Larsen, Levine, & Emmons (1985) examined the intensity of specific emotions in studies of daily moods and found that intensity scores co-varied strongly across very dissimilar emotions. It was suggested that this indicates affect intensity to be a broad individual characteristic that is not restricted to specific emotional domains. Nevertheless, further research is warranted before any firm conclusions can be drawn.

Control of Expression. The theories of Tomkins (1962, 1963), Izard (1977), and Izard and Malatesta (1984) propose that as people grow older they learn to moderate their facial expressions in response to socialisation pressures and cultural norms which act to encourage the suppression of overt displays of emotion. This idea is strongly supported by the findings of recent emotions research which provides evidence to suggest that there are 'rules' which dictate how emotion is expressed by people of different ages, and that these rules may be more constrictive for older people.

Malatesta and Kalnok (1985) suggest that these rules may be affect specific. In this study older people agreed more than either of the two younger groups that people their age should conceal feelings of anger, happiness, disgust, and sadness; while older people and younger people agreed more than middle-aged individuals that people their age should conceal the affects of shame and interest/excitement. It is one of the aims of the current study to attempt to replicate Malatesta and Kalnok's (1985) findings regarding the existence of age-related display rules.

The theoretical speculations of Tomkins (1962, 1963) and Izard (1977) suggest that due to these social constrictions or 'rules' concerning the emotional expression older people may be less overt in their expression of affect than younger people. The results of early projective test studies indicate that people do become less expressive with age. Such findings are congruent with the above hypothesis, suggesting that older individuals may behave according to the more constrictive rules they perceive as being laid down for them. Malatesta and Kalnok (1985) suggests, however, that this may not be the case, with older people reporting no more inhibition of the display of emotion than younger people, despite the fact that they agreed more strongly than younger respondents that certain emotions should be concealed.

This is in line with Izard and Malatesta's (1984) and Hansson et al.'s (1984) predictions regarding possible changes in the ways in which emotion is expressed across the life-span. Izard and Malatesta (1984) suggest that conformance with social conventions regarding emotion control may be more important for young and middle-aged adults because they must spend so much time with a variety of other adults in work and family situations where there is a high chance of interpersonal friction if emotions are expressed too overtly. For older adults such conformance is not so necessary because they do not spend so much time in such situations and so have less to lose by the overt expression of their emotions. Hansson et al. (1984) suggest that, due to a decrease in demands for competence and effective self-presentation from their social group, older people no longer need to retain a repertoire of emotional 'competencies' and they have less need to maintain emotional control.

From the paradoxical findings of Malatesta and Kalnok (1985) and the theoretical speculations of Izard and Malatesta (1984) and Hansson et al. (1984) emerge the final two questions addressed in the current study: "How much control do people exert over their emotions?" and "How much is

people's behaviour actually governed by their awareness of age-related display rules?"

4-2. Research Method.

Before going on to outline the specific questions addressed in the current study a brief discussion of the rationale for the choice of self-report methodology as the research strategy is necessary.

There are three main research strategies used in the empirical study of emotion. Firstly, there is the paradigm which requires the induction of specific emotional states, either by the creation of antecedent events that are presumed to elicit specific emotions, or by the use of techniques to induce subjects to recall personal emotion eliciting events. Such research is usually carried out in a laboratory setting. Secondly there is the naturalistic field study, in which emotional behaviour is observed by the researcher as it occurs in real life settings. Finally, there is the self-report method, in which subjects are directly asked about various aspects of their emotional functioning. This may occur in the context of an in-depth interview, or in a more standardised questionnaire format. It is the self-report methodology, in the form of a standardised questionnaire developed specifically to address the questions outlined above, which is utilised in the current study.

There are a number of reasons why the first two methods are particularly unsuitable for investigating the issues addressed in the current study. With regards to looking at the frequency and the intensity of emotional experience in the context of the experimental paradigm, for example, it must be noted that it is very difficult to evoke emotion in a laboratory setting, even with powerful intense stimuli, due to the fact that subjects' responses are tempered by the situation (Strongman, 1987). Because of this the emotional reactions which are evoked in the laboratory will not be a true representation of those which naturally occur in the subjects' everyday life.

In addition, there may be differences among the age groups in the ways in which they react to the laboratory situation. It is possible, for example, that older people may find the laboratory situation more unfamiliar and, because of this, more threatening than younger people. This may cause them to be more defensive about expressing the emotions they are feeling. Thus, any information gained concerning the frequency and the intensity with which various emotions occur in the laboratory

situation for the different age groups would not generalise across to everyday life. Finally, even if the emotions elicited in a laboratory situation did parallel those occurring in real life it would still be difficult to observe a sufficient number of incidences of emotion for systematic research.

Looking at the subjective experience of emotions within the context of a naturalistic field study would be equally problematic. It is very difficult to measure the frequency and/or the intensity of emotions as they occur naturally. This is mainly due to the fact that the researcher has no way of knowing if certain emotions are occurring, or how intensely they are occurring, simply by looking at the individuals who are under study because people do not necessarily show the emotions they are feeling. Because of this statements can not be made about differences between groups of people about how they are experiencing emotion on the basis of observations of the emotions they express in a natural social situation.

Experimental studies and the naturalistic field study are also of very little use in the investigation of the social regulation and control of emotion. Because the laboratory situation is a rather unique social situation with a large number of very specific normative constraints it is highly unlikely that the operation of normal social rules concerning both feeling and expression can be expected to occur in such a context.

It is even more difficult to investigate these issues in a natural setting. As is pointed out by Scherer (1986), our present state of knowledge does not allow us to differentiate between the aspects of emotional expression produced by the emotional experience itself and those features which are produced by social regulation without actually asking the person observed. Thus, there is no way of knowing whether a certain expression signals that a person is hiding another emotion, or whether that expression signals that the person actually is experiencing the emotion that he or she appears to be experiencing.

It is obvious then that it is very difficult to gain information about people's subjective emotional experience by observing them in a laboratory situation, or even in a natural situation. It is only by directly asking people that information about their subjective experience of emotion in their daily lives can be elicited. It is also important to remember that self-reported emotional experience is theoretically important in its own right because it allows an assessment of the subjective representation of people's emotional reactions. Unfortunately, however, the the self-report method has not

been widely used in the study of emotion, despite the fact that it avoids many of the limitations of both the experimental method and the naturalistic field study.

Averill (1982), after reviewing a handful of previous surveys on the everyday experience of anger, suggests that a possible reason for this may be a concern with the validity of self report data and comments that:

"...a healthy scepticism and caution about self-report have resulted in an unhealthy form of self-censorship, in which psychologists have cut themselves off from some potentially useful sources of information." (Averill, 1982, p 150).

Scherer (1986) also makes this point. He notes that the use of the questionnaire to study emotional experience is often considered somewhat dubious, almost as if people should not be trusted to be honest about their emotions. He concedes that while defence strategies may operate in the reporting of emotional experiences, due to their private, personal nature, such artefacts can be minimised through the use of the questionnaire method. By using a standardised questionnaire which can be administered in a reasonably anonymous context subjects may respond more truthfully to the questions asked because they would be in no danger of exposing themselves in any way, or of being 'judged' by the researcher on the basis of their responses.

Finally, the self-report method is a far more economical research tool than the experimental laboratory study or the naturalistic field study. In any study aiming to assess differences between various groups of people on aspects of emotional functioning reasonably large numbers of subjects are required, making the use of these two paradigms very demanding in terms of organisation and resources. The self-report method, particularly the standardised questionnaire, enables the study of a large number of people and the assessment of a large number of background factors with the minimum of time and expense.

Thus, taking these points into consideration it was decided to utilise self-report questionnaire methodology in the current research.

4-3. Questions Addressed in the Current Study.

1. Do people experience more negative and less positive affect as they grow older?
 - Do the "older elderly" (those aged 70 and above) experience more negative affect and less positive affect than the "younger-elderly" and middle-aged individuals?
2. Are there age-related changes in the frequency of specific emotions, and if so, in which emotions do these changes occur?
3. Do people experience less emotion overall as they grow older?
4. Do people experience emotion less intensely as they grow older?
 - Do the "older-elderly" experience less intense emotions than the "younger-elderly" and middle-aged individuals?
5. Are there age-related changes in the intensity of specific emotions, and if so, in which emotions do these changes occur?
6. Are there age-related display rules concerning the expression of emotion, and are these rules more constrictive for older people than for younger individuals?
7. If such rules exist, are they equally applicable to all emotions, or are they emotion specific?
8. Are there age-related differences in the degree to which people try to control their expression of emotion?
9. Is the same amount of control exerted over all emotions, or does it differ from emotion to emotion?
10. How much is the degree of control people exert over emotional expression related to their perception of age-related display rules?

CHAPTER TWO

METHOD

I. SUBJECTS

1-1. Subject Selection.

Non-random referral ('snowball') sampling was used to recruit subjects (Welch, 1975). This technique relies on an initial few respondents who in turn relay their own contacts on to the researcher. In this study the researcher distributed questionnaires to an initial subject pool who had been personally approached and asked for their participation in the study. Each of the initial respondents was asked if s/he could recommend others who would be willing to fill out the questionnaire. These individuals were then approached by the researcher and asked if they would participate in the study. Upon their consent they, in turn, were asked if they could recommend any other potential subjects.

This system continued until a minimum of fifty subjects for each of the three age groups was attained. A total of 197 questionnaires were returned and thirty-seven of these were selected randomly for elimination from the two youngest groups in order to achieve balance with the oldest group. In addition, 10 were eliminated because subjects failed to complete a significant portion of the questionnaire (10 or more items). This method of subject recruitment resulted in a large sample of people with a wide range of background characteristics, from a number of different areas in New Zealand, both rural and urban.

1-2. Subject Characteristics.

The youngest group ranged in age from 40 to 54 years ($M = 45.72$, $SD = 4.60$), the middle group ranged from 55 to 69 years ($M = 61.26$, $SD = 4.70$), and the oldest group ranged from 70 to 91 years ($M = 77.38$, $SD = 5.26$). The oldest group was further divided into two sub-groups, those aged 70 to 79 ($M = 74.31$, $SD = 4.36$), and those aged 80 to 91 years ($M = 85.65$, $SD = 4.70$). There was no attempt to balance for sex which resulted in a preponderance of females in the sample (58% of the sample were female).

Overall, the majority of the respondents were married, with only a small number of the subjects living alone. Roughly half of the subjects were employed, while the remainder were retired. Income levels,

according to self-ratings ranged from 'high' to 'low', with most people estimating their income to be 'middle' or 'low'. Most of the subjects rated their health as 'very good' or 'good'. Detailed demographic information for the overall sample, and for each group separately, is given in Tables 1 and 2.

Table 1.

Subject Characteristics (Demographic).

	Sex (%)		Marital Status (%)		Employment Status (%)	
	<u>Male</u>	<u>Female</u>	<u>Married</u>	<u>Alone</u>	<u>Employed</u>	<u>Retired</u>
Entire Sample	42	58	71	28	46	54
Middle-Aged	40	60	84	16	100	0
Young-Old	44	56	80	20	40	60
Old-Old	40	60	50	50	0	100

Table 2.

Subject Characteristics (Self-rated Health and Income)

	Income			Health		
	<u>High</u>	<u>Middle</u>	<u>Low</u>	<u>VG/G</u>	<u>Mod</u>	<u>P/VP</u>
Entire Sample	10	50	40	70	27	3
Middle-Aged	18	60	22	88	12	0
Young-Old	12	50	38	70	30	0
Old-Old	0	40	60	50	40	10

II. DATA COLLECTION

2-1. The Questionnaire.

Data for the study were gathered using a seven page questionnaire consisting of Likert-type response items (see Appendix A). This questionnaire was developed specifically to address the questions outlined in Chapter One, Section 4-3. The questionnaire was divided into five sections; A, B, C, D, and E, with each section dealing with different aspects of emotion and emotional response. All of the sections, with the exception of Section B, were concerned with people's experience of 12 specific emotions; anger, happiness, sadness, guilt, sympathy/compassion,

fear/anxiety, hatred, love, disgust, envy/jealousy, interest/excitement, shame/embarrassment.

Because of the focus of the present study on the possibility of differential age-related changes occurring in the experience of discrete emotions the selection of emotions to include in this study was an important initial choice in the development of the questionnaire. Different emotions theorists discuss various basic emotions which are often conceptualised as discrete phenomena, with writers proposals ranging between five and fifteen 'basic' emotions (Bull, 1951; Ekman & Friesen, 1975; Izard, 1977; Plutchik, 1962; Tomkins, 1962, 1963). Happiness, sadness, fear, anger, interest/excitement, disgust, contempt, and surprise were immediately selected for inclusion in the questionnaire due to the fact that they are almost unanimously accepted by theorists as being 'basic' affects which are commonly experienced by most individuals. (Averill, 1980; Bull, 1951; de Rivera, 1984; Ekman, 1972; Izard, 1977; Plutchik, 1962; Tomkins, 1962, 1963).

Shame/embarrassment (included in the 'lists' of both Tomkins, 1962, 1963; and Izard, 1971), and guilt (included by Izard, 1971), were also selected, mainly on the basis of the work done by Izard (1974) concerning the list of emotion words to be included in the DES. A number of cross-cultural studies showed shame and guilt, along with the other eight emotions defined by Differential Emotions Theory, to be universally experienced, expressed, and recognised as emotions.

Two emotions, 'contempt' and 'surprise', however, were subsequently removed from the list after a pre-testing of the questionnaire on a sample of 10 individuals. 'Contempt' was removed due to the fact that most of the pre-test subjects could not differentiate it from disgust. In the discussion with the researcher following the pre-testing sessions the majority of subjects stated that they felt it was 'redundant'. 'Surprise' was deleted from the list of emotions after all of the pre-test subjects stated that they did not consider it an emotion. Interviews with another group of subjects (N=9) further suggested that many people may not consider surprise to be an emotion. This is in agreement with Averill who suggests that surprise may more a reflex than an emotion (Averill, 1980).

Love (included by Averill, 1980; De Rivera, 1984; Shaver, Schwartz, Kirson, & O'Connor, 1987), envy/jealousy, sympathy/compassion, and hatred were also selected for use in the current study. While these are not emotions unanimously declared to be 'basic' or fundamental by theorists

this does not necessarily mean that they are unimportant or that they are not commonly experienced by people in their day-to-day lives. As is noted by Averill (1984), emotions which are defined as being fundamental are usually identified as such on the basis of mainly biological criteria (See Averill, 1980, p 326). He states that an emotion such as love, for example, is not really any less fundamental than fear or anger, it simply incorporates more sociocultural than biological elements. This is also the case for such 'socially' oriented emotions as sympathy/compassion, envy/jealousy.

The first section of the questionnaire dealt with the frequency with which the twelve selected emotions occurred in the daily lives of the respondents and required subjects to rate how often each emotion occurs in their day-to-day lives. Sections B and C dealt with the intensity with which people experience emotion in their daily lives. Section B consisted of the full version of Larsen's (1984) Affect Intensity Measure (AIM). The AIM is a 40-item questionnaire that assesses the characteristic intensity with which an individual experiences his/her emotions. Existing research on the psychometric qualities of the AIM shows that it has a 3-month test-re-test reliability of .81 and internal consistency values ranging from .90 to .94 (Larsen, 1985, cited in Larsen & Diener, 1987). Multi-trait, multi-method investigation of the AIM has determined that it has adequate concurrent and discriminant validity (Flett, Boase, McAndrews, Pliner, Blankstein, 1986; Larsen & Diener, 1985; Larsen, Diener & Emmons, 1986).

In Section C subjects were asked to rate the intensity with which they felt each of the individual emotions introduced in Section A. It should be noted that both Sections A and C were loosely based on the Differential Emotions Scale (DES II, Izard, Dougherty, Bloxom, & Kotsch, 1974), a self-report instrument designed for use in the assessment of an individual's experience of discrete emotions. The DES II (Izard et al., 1974) consists of thirty adjectives, three synonyms for each of the ten 'fundamental' emotions defined by differential emotions theory (see above), and asks subjects to rate on a Likert-type frequency or intensity scale the extent to which each word describes the they have felt during a specified time period.

The DES II (Izard et al., 1974) was not considered for use in the current study for mainly practical reasons. Because many elderly people, especially the very old, are not used to dealing with questionnaires and 'scales' the survey had to be kept reasonably brief and very straightforward. If the DES II (Izard et al., 1974) had been included in the questionnaire this would have required the subjects to rate a total of sixty emotion words in Sections A and

B alone. Instead the current research used only basic emotion descriptors, such as 'anger', 'fear/anxiety', 'sadness', for the 12 emotions selected for study rather than using a number of synonyms for each word. Because the current study aimed to cover a number of issues, in order to provide an overall view of emotional functioning in later life, it was necessary to keep each section of the questionnaire reasonably brief so as to avoid tiring the subjects.

The fourth section of the questionnaire was concerned with the degree to which subjects conceal their emotions from other people, with the respondents being asked to rate how much they show/hide each of the twelve emotions. The final section was concerned with how much individuals felt that 'people their age' should hide emotions from others. In this section subjects were asked to rate how much they agreed/disagreed with statements such as "A man/woman may age should hide ANGER when he/she feels it" for each of the 12 emotions. Both the last sections were based on items used by Malatesta (1982) and Malatesta and Kalnok (1985).

A third of the items in Section B and half of those in Section D were reverse keyed in order to reduce the possibility of response set. All items in Section C were reverse keyed for analysis in order to facilitate comparison with the AIM. Every item was rated on a 6 point Likert-type scale. The 6 point scale was selected for use in this study because psychometric tests have shown that there no psychometric advantage in a large number of scale categories and there is a loss of discriminative power and validity at fewer than 5 points (McKelvie, 1978).

At the beginning of each section brief instructions were given regarding what the items were about and how they should be filled out. The questionnaire was preceded by a personal information sheet concerning the subject's age, sex, self-rated income, self-rated health, and employment status (see Appendix B).

2-2. Research Procedure.

Subjects filled out the questionnaires in the presence of the researcher, either by themselves, or in small groups. This was done in order to ensure that subjects did not talk about the questionnaire while working on it, or ask for the opinion of others on how they should fill it out. If any questions arose after reading the instructions, or during the completion of the questionnaire, the researcher tried to respond in a non-committal way

such as: "Just indicate the way you have generally felt in your day-to-day life" so as not to bias the subject's responses.

To maximise frankness the subjects were assured of confidentiality and anonymity, although there was a space provided for the subjects to record their name if they wanted to. In order to place subjects under as little pressure as possible they were told they could take as much time as they needed to in filling out the questionnaire. Most people took between 25 and 45 minutes to complete the whole task, including filling out the personal information sheet at the beginning.

After the session subjects were encouraged to talk about their reactions to the items in the questionnaire and to mention anything else that they felt was relevant. The researcher recorded these additional comments on the backs of the questionnaires.

IV. DATA ANALYSES.

Data from the questionnaire were computer analysed using the SYSTAT (System for Statistics, Wilkinson, 1987) "Stats" programme. This programme carried out one-way analyses of variance on the data. It also carried out *t* - tests on the data from two sub-groups of the oldest age group. ANOVAs and *t* - tests were carried out in order to determine if any statistically significant differences emerged between the age groups regarding the frequency, the intensity, the control of, and the perception of display rules concerning each of the 12 emotions included in the current study.

Individual ANOVAs and *t* - tests were carried out for each separate emotion in Sections A, C, D, and E. Subjects' ratings were collated and the mean frequency, intensity, control, and display rules ratings for each emotion were compared across the age groups. ANOVAs and *t*-tests were also performed on subjects' overall scores for Sections C, D, and E. Subjects' overall scores were collated and mean ratings for each section were compared across age groups.

The sample was divided into three main age-groups for analyses. The middle-aged group ranged from 40 to 54 years of age, the young-old group ranged from 55-69 years and the old-old group ranged from 70-91 years. Initially it was planned to divide the sample according to Neugarten's (1974) suggested divisions, with those under 75 being considered as 'young-old' and those over 75 being considered 'old-old'. Unfortunately, however, in order to attain an even distribution of subject

numbers within each age-group, it was necessary to lower the cut off point between 'young-old' and 'old-old' to 70 years.

Because this group still consisted of a number of people who may not be considered as 'old-old' this group was sub-divided for further analyses. Because it has been noted by many authors that it is those over the age of 80 years who most resemble the traditional image of old age, and that once people reach 80 years of age they are universally considered as 'old', it was decided to divide the oldest group into those under 80 years and those over 80 years.

CHAPTER THREE

RESULTS.

I. INTRODUCTION

ANOVAs were computed for each of the separate emotion items in sections A, C, D, and E and for each subject's overall mean scores for the items in Sections B, C, D, and E. In addition *t* - tests were carried out on the oldest groups data in order to determine if any significant differences emerged between those aged 70-79 and those aged over 80.

The results are presented in four major sections. The first section will deal with the results of Section A of the questionnaire, the second will deal with the results of Sections B and C, the third will present the results of Section D, and the fourth will present the results of Section E.

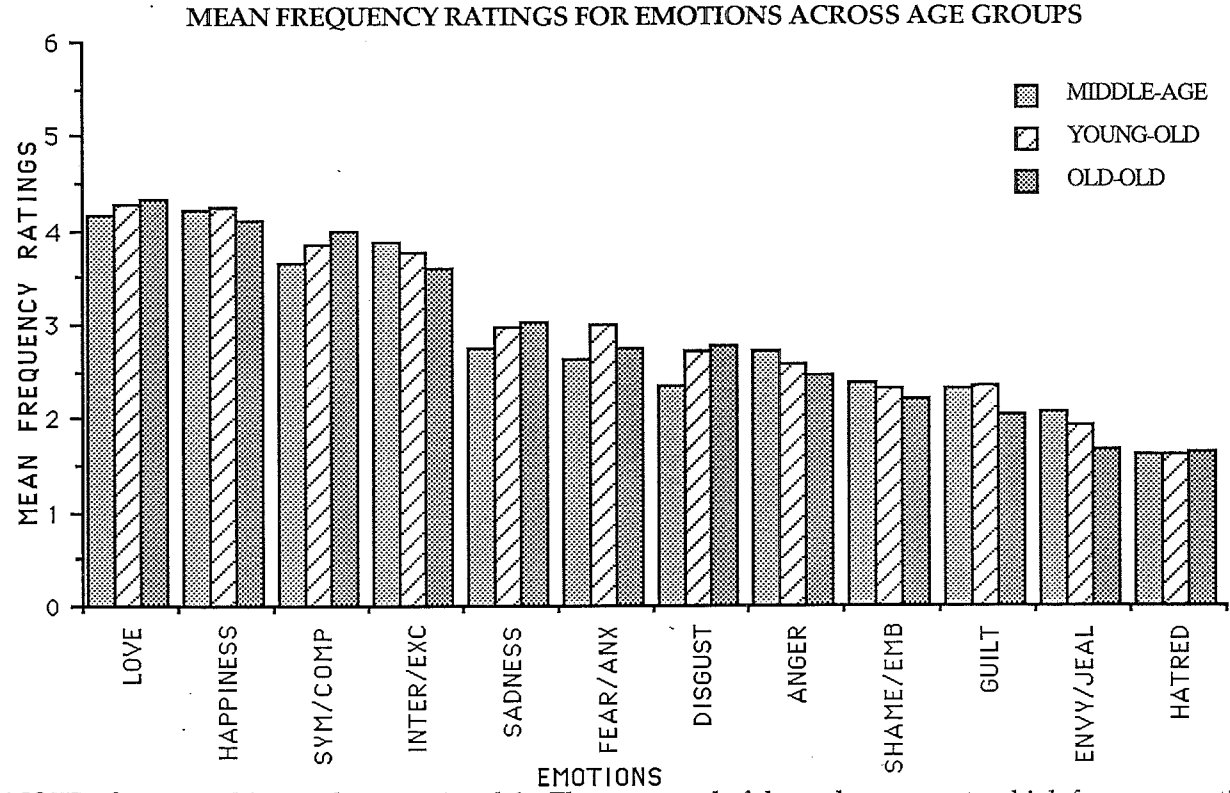
II. AGE COMPARATIVE ANALYSES.

2-1. Section A.

ANOVAs disclosed between-group differences in the self-reported frequency of two emotions, disgust and envy/jealousy, in the daily lives of the respondents. The oldest group reported experiencing disgust more frequently than either the young-old or the middle-aged group. This difference was significant between both the old-olds and the middle-aged and the young-olds and the middle-aged, $F(2,147) = 4.096, p < .05$. The middle-aged group reported experiencing envy/jealousy more frequently than either the young-old or the old-old groups. This difference was significant only between the middle-aged and the oldest groups, $F(2, 147) = 3.537, p < .05$.

As can be seen clearly by looking at the frequency means in graphical form (Figure 1) love, happiness, sympathy/compassion and interest/excitement are reported to be the most frequently experienced emotions across all three age-groups. Sadness, fear/anxiety, disgust, and anger are the next most frequently experienced emotions for all age groups, while shame/ embarrassment, guilt, envy/jealousy, and hatred are reported as being the least frequently experienced emotions by all age groups.

Figure 1.



NOTE: Scores could range between 1 and 6. The upper end of the scale represents a high frequency rating, while the lower end represents a low frequency rating for each emotion.

Further analyses (t - tests) of the oldest group's data disclosed differences between those aged 70-79 and those aged 80 and above in the self-reported frequency of four emotions; fear/anxiety, envy/jealousy, hatred, sympathy/ compassion, and love. The oldest-olds reported feeling fear ($t = 2.204, p < .05$), more frequently, and sympathy/compassion ($t = 2.303, p < .05$), love ($t = 8.2111, p < .001$), envy ($t = 3.073, p < .01$), and hatred ($t = 2.793, p < .01$) less frequently than the younger-olds. Differences between these groups were only evident on the frequency measure.

With regards to overall frequency of emotional experience those over the age of 80 years experience every emotion except fear less frequently than those aged 70 to 79 years (see Figure 2).

2-2. Sections B and C.

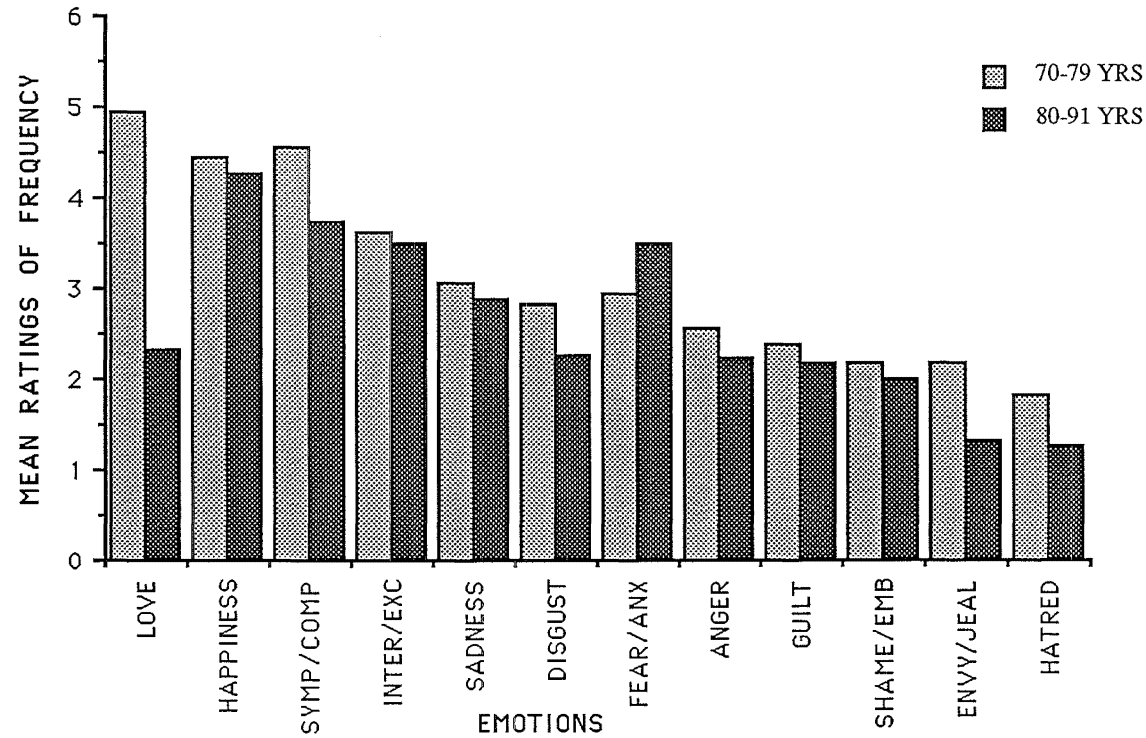
Analysis of variance disclosed no overall change in the intensity of emotional experience with age as measured by the AIM, or as measured by respondents' overall scores for Section C. However, when considering the means for the AIM a slight trend emerges which suggests a possible small linear decrease in emotional intensity with age, with the difference between the youngest and oldest groups approaching significance at the .05 level, $F(2, 147) = 2.547, p < .08$.

With regards to individual emotions the young-old group reported that they experienced disgust more intensely than both the middle-aged and the old-old groups, who did not differ. This difference emerged as significant between the young-old and the middle-aged groups, $F(2, 147) = 3.183, p < .05$, but not between the young-olds and the old-olds. The same pattern emerged for fear/anxiety, with the young-old group reporting that they experienced fear/anxiety more intensely than both the middle-aged and the oldest groups, who did not differ. Once again the difference was significant between the young-old and the middle-aged groups, $F(2, 147) = 3.097, p < .05$, but not between the young-olds and the old-olds.

The oldest group reported experiencing anger less intensely than did the young-olds and middle-aged. This difference was significant between the youngest and oldest groups, $F(2, 147) = 5.902, p < .05$. Both the old-old and the young-old group reported feeling interest/excitement less intensely than the middle-aged group, although this difference was significant only between the youngest and the oldest groups, $F(2, 147) = 3.141, p < .05$.

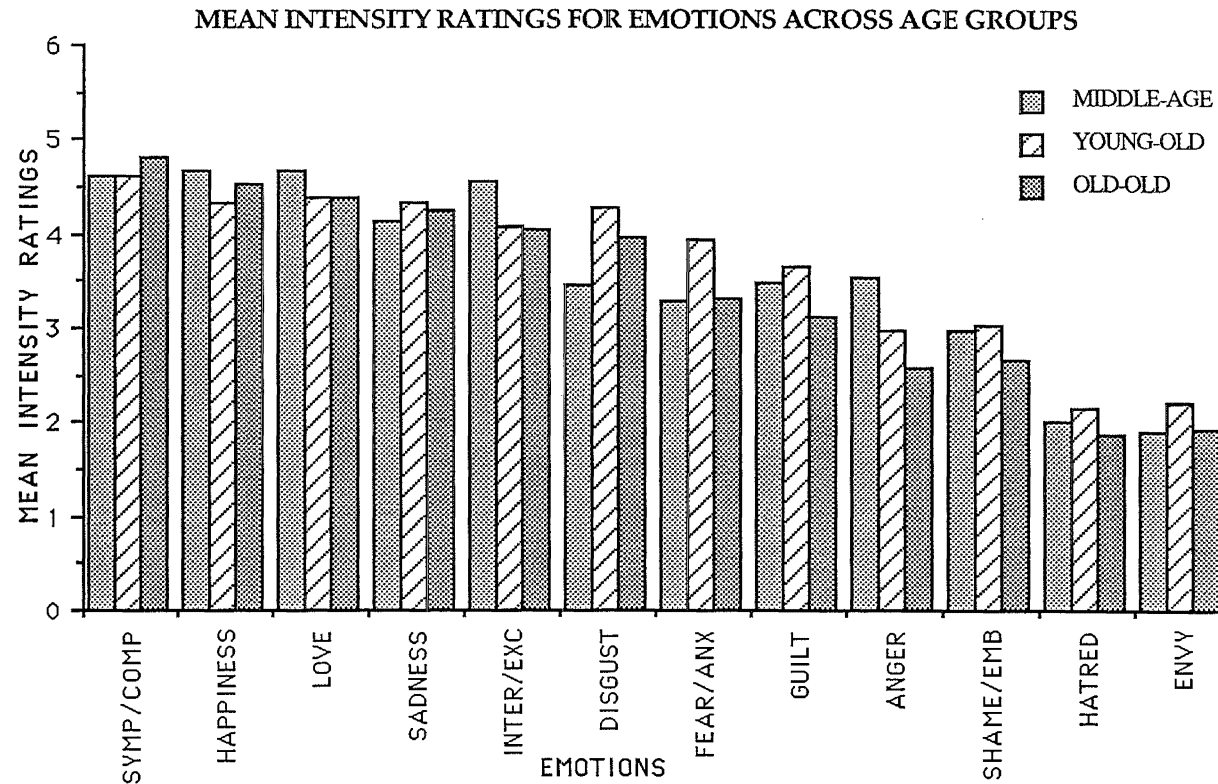
Figure 2.

MEAN FREQUENCY RATINGS OF EMOTIONS FOR THOSE AGED 70-79 AND 80-91 YEARS



NOTE: Scores could range between 1 and 6. The upper end of the scale represents a high frequency rating, while the lower end represents a low frequency rating for each emotion.

Figure 3.



NOTE...Scores could range between 1 and 6. The upper end of the scale, both for the AIM and Section C, represents a high intensity rating, while the lower end represents a low intensity rating.

2-3. Section D.

Analyses of variance revealed no general shift in how much people try to conceal emotions as measured by respondents' overall scores for Section D, although some significant differences did emerge between the groups when emotions were looked at separately.

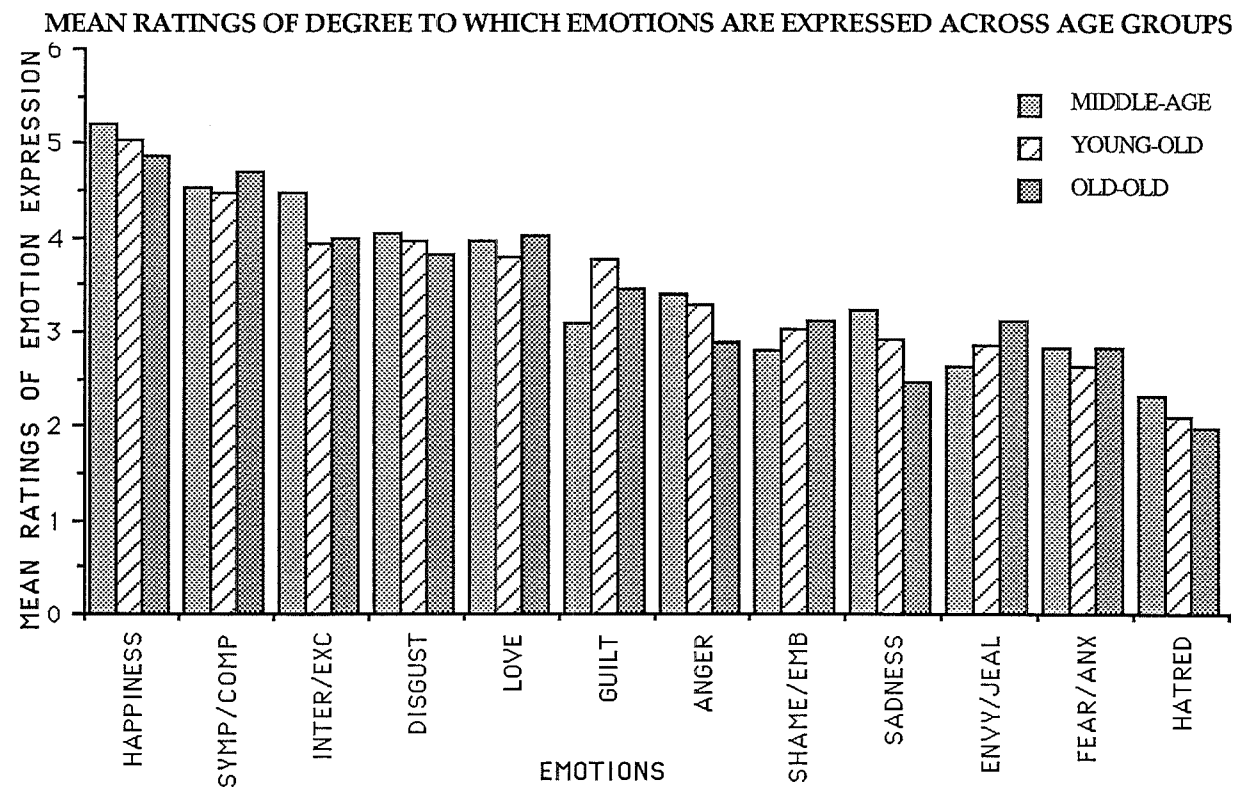
According to self-report middle-aged people try to hide feelings of guilt more than do young-old and old-old individuals, who do not differ. This difference was significant between the middle-aged and young-old respondents, $F(2,147) = 3.035, p < .05$, but not between the middle-aged and old-old groups. Old-olds and young olds, who did not differ, reported trying to hide feelings of interest/excitement, $F(2, 147) = 3.991, p < .05$, more than did middle-aged people. Old-olds reported trying to hide sadness more than their younger counterparts, although this difference was only significant between the old-old and the middle-aged groups, $F(2, 147) = 6.235, p < .01$.

2-4. Section E.

Analysis of variance revealed an age-related shift in how much people agree that emotions in general should be hidden as measured by respondents' overall scores for Section E. Old-old people agreed more than middle-aged and young-old individuals that people their age should try to conceal emotion, this difference was significant only between the youngest and the oldest age-groups, $F(2,147) = 7.714, p < .001$. As can be seen from the graph (Figure 5) all three age groups perceive more constrictions on the expression of negative emotions, but these constrictions appear to be much more pronounced for the oldest group.

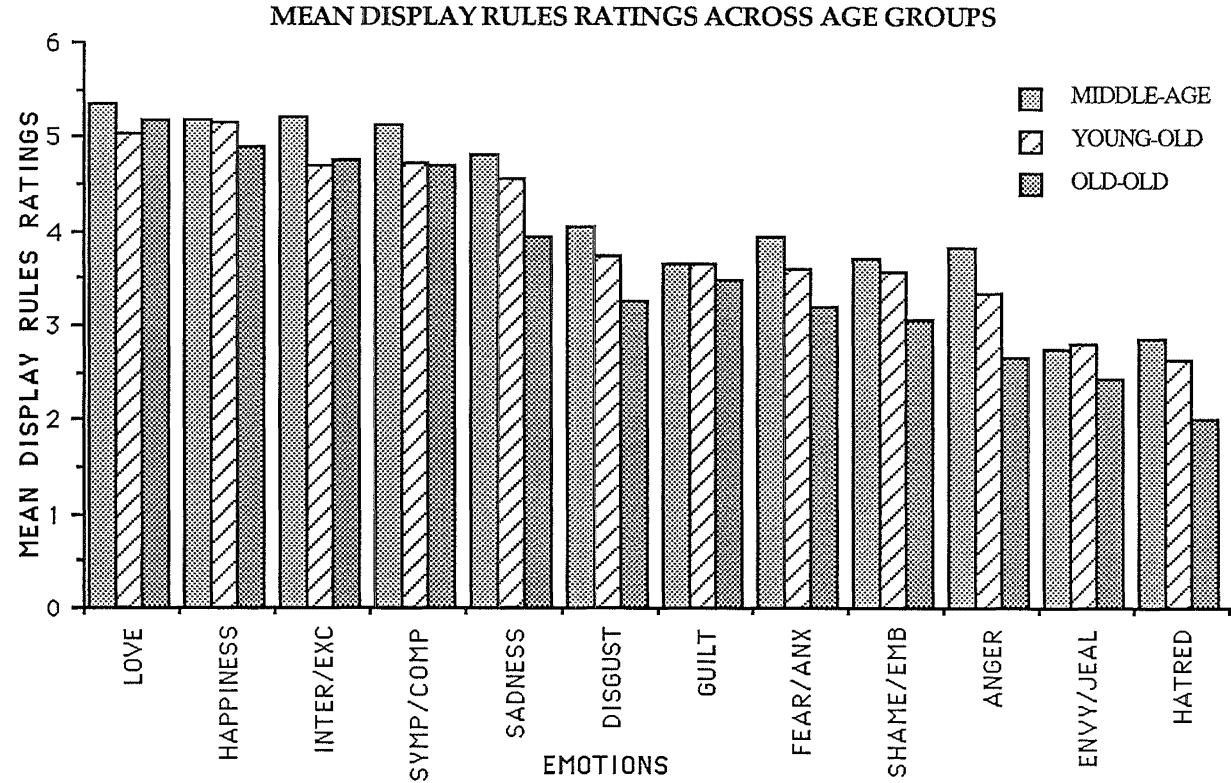
When emotions were analysed separately old-old people agreed more than middle-aged individuals that people their age should conceal feelings of hatred, $F(2,147) = 7.900, p < .001$, fear/anxiety, $F(2,147) = 5.230, p < .01$, anger, $F(2,147) = 11.156, p < .001$, shame/embarrassment, $F(2,147) = 3.806, p < .05$, disgust, $F(2,147) = 5.319, p < .01$, and sadness, $F(2,147) = 9.421, p < .001$. Finally, older and middle-aged people agreed more than younger individuals that people their age should conceal feelings of interest/excitement from others, $F(2,147) = 5.319, p < .01$.

Figure 4.



NOTE: Scores could range between 1 and 6. The upper end of the scale represents open expression of emotion, while the lower end of the scale represents concealment of emotion.

Figure 5.



NOTE: Scores could range between 1 and 6. The upper end of the scale represents disagreement with the statement that "people my age should conceal (emotion)", and the lower end represents agreement.

CHAPTER FOUR

DISCUSSION

I. INTRODUCTION AND OVERVIEW

The intention of this research was to provide a general view of some of the important aspects of emotion and how they may change during middle and late adulthood rather than to make any definitive statements about age-related changes in emotional functioning. Thus no set hypotheses were formulated for the current study. Instead a number of questions which emerge as important from theory and previous research were outlined, and these were addressed with no set ideas about what the data may reveal.

Analyses disclosed differences between the age groups on a number of aspects of emotional functioning. These differences are apparent in the frequency and the intensity with which a number of specific emotions are experienced, as well as in the amount of control exerted over the expression of certain emotions, and the degree to which subjects perceived the existence of age-related 'display rules' concerning the expression of emotion.

In order to discuss the findings of the current research the remainder of this chapter is organised as follows. Firstly the results for each main area of interest; frequency of emotional experience, intensity of emotional experience, and control of emotional expression are discussed in relation to theory and other relevant research findings. This is followed by a brief summary section. Thirdly the limitations of the current study are examined and, finally, suggestions are made concerning directions for future research.

II. GENERAL DISCUSSION

2-1. Frequency of Emotional Experience

Most theoretical speculations which have a bearing on the issue of changing frequency of emotional experience with age predict that as people age there is an increase in negative affect and a decrease in positive affect (Havighurst & Albrecht, 1953; Kemper, 1978; Solomon, 1980; Tomkins,

1962, 1963). From these speculations arose the first question addressed in the current study: *"Do people experience more negative and less positive emotion as they grow older, and is this more pronounced in those over the age of 70 years?"* Results suggest that the answer to this question appears to be no, on both counts, with there being no indication of an overall shift toward a preponderance of negative affect as people grow older.

Results reveal no marked increase in the frequency of the majority of the negative emotions considered in this study between the oldest group (those aged 70-91 years) and the two younger groups, nor do they reveal any marked decrease in the frequency of positive emotion. A comparison of two sub-groups within the oldest age group (those aged 70-79 and those aged 80-91 years) further failed to reveal any differences in the frequency of positive and negative emotion overall.

These findings are in line with the conclusions of age-comparative research in the subjective well-being and clinical fields, which indicates that older people are no more likely to be less satisfied/happy or more emotionally distressed than younger individuals (Alston et al., 1974; Andrews & Withey, 1976; Bortner & Hultsch, 1970; Cantril, 1965; Cameron, 1975; Clemente & Sauer, 1976; Costa & McCrae, 1988; Feinson & Thoits, 1986; Gross, Gross, & Seidman, 1978; Lieberman, 1970; Medley, 1980; Palmore, 1969, 1973; Sauer, 1977; Spreitzer & Snyder, 1974; Srole & Fischer, 1980).

The results of the current study are also in agreement with the findings of Malatesta and Kalnok (1984). In this study, as in the current research, respondents were asked to rate the frequency with which they experienced several discrete positive and negative emotions. Results suggested that older people do not seem to experience any more negative emotion, any less positive emotion, or any more shame than their younger counterparts.

The fact that most empirical research indicates that older people do not experience any more negative affect, or any less positive affect, than their younger aged counterparts nevertheless continues to puzzle in view of the various lines of thought which converge to suggest otherwise. Old age brings with it a number of new emotion arousing events which may be broadly identified as 'losses'. Such events are likely to elicit immediate, intense negative emotional responses. Given this greater predominance of objectively negative events in the lives of older persons one would expect a higher incidence of negative affective states.

When the losses sustained by the elderly are considered in light of the ideas presented by theorists such as Tomkins (1962, 1963), Kemper (1978), and Solomon (1980) it seems even more certain that elderly people would experience more negative emotions than younger individuals. Tomkins (1962; 1963), for example, suggests that humans attempt to control the circumstances that evoke the various emotions in order to maximise positive affect and minimise negative affect. If elderly people, due to a diminution of available resources are no longer in a position to 'control their circumstances' then it follows that they will experience more negative affect.

Kemper (1978) suggests that one's power and status in social interactions determine the kinds of emotions which will be felt as a result of such interactions. Because most older people have sustained a number of role losses (due to retirement, lessening involvement in community activities, decreasing physical ability, illness, etc.) they will have lost a considerable amount of both power and status in many of their interactions with other people. Again these ideas suggest older people would experience more negative affect.

Finally Solomon (1980) suggests that if the types of experiences/objects encountered during old age are essentially similar to those which have been experienced previously then their impact is likely to be relatively slight due to habituation, but that if the older person loses these experiences/objects then, because of the repeated exposure, their loss will cause greater unhappiness. The net result of this would be an increase in the amount of negative emotion experienced as people age.

Schulz (1985) offers an interesting suggestion for why, in spite of these arguments, older people do not seem to experience any more negative affect than younger individuals. He points out that how we respond to most environmental stimuli is not a function of absolute levels of input but of the discrepancy between expected and actual levels of input (Thomae, 1980). He suggests that such expectations may be based on a "composite or average of similar past encounters" (Schulz, 1985, p. 538) or on standards currently existing within a social group. He goes on to say that, regardless of the source of the expectations, any time the outcomes fall short of what is expected, negative affective experiences should result, and that outcomes that exceed expectations should result in positive affect.

He suggests that aged people may not experience many negative discrepancies between expected and actual outcome in various situations

because, rather than making comparisons with their past life, they may use their present situation as a yard-stick for evaluating their outcomes. As Schulz points out

"Given the many real declines associated with the onset of old age (eg., the declines in physical and cognitive ability or economic resources), comparisons based on the past are likely to yield negative discrepancies and hence negative affective states. Thus, individuals who compare present events and circumstances with past abilities, accomplishments and outcomes are likely to encounter many negative discrepancies. On the other hand, those who use a contemporary context to evaluate their outcomes are less likely to encounter such discrepancies and hence negative affective states" (Schulz, 1985, p. 538).

Schulz (1985) suggests that the factors which combine to suggest an increase in negative affect with age are offset by changes in the individual's reference group and expectation levels. While there is, as yet, little empirical research concerning this issue Schulz's analysis provides a viable explanation for the findings of the current study and past research and points to an important area of future enquiry.

While the current results are in line with previous research findings insofar as they suggest that older people experience no more negative and no less positive emotion overall than their younger counterparts, the present study, in considering the possibility of age-related changes occurring in the frequency of specific emotions, revealed that some age-related differences may occur in the experience of several discrete emotions.

The oldest group reported feeling less envy/jealousy than the young-old and middle-aged groups, while both the older groups (55-69 and 70+ years) reported feeling more disgust than their younger counterparts. The results of a comparison between two sub-groups of the oldest group, those aged 70-79 years and those aged 80-91 years, revealed further emotion specific differences. The oldest group reported feeling sympathy/compassion, love, hatred, and envy/jealousy less frequently than the younger group. They also reported experiencing fear/anxiety more frequently than did the younger group.

Because most of the research dealing with the issue of emotion across the life-span has considered the subjective experience of emotion in terms of the two major dimensions of positive and negative affect the possibility of

age-related differences in the frequency of specific emotions has not been directly considered by most researchers. Unfortunately, the one study which does consider the frequency with which discrete emotions occur in people's daily lives does not utilise a similar list of emotions as the current study (Dean, 1962). The only emotion included in both studies was anger, which in Dean (1962) was found to decrease with age. In the current study there is a slight linear decrease in frequency ratings for anger, but the differences between the age groups do not reach significance.

A possible explanation for the results of the current study emerges when the idea that elderly people have less opportunity for social interaction is considered in conjunction with the argument that specific emotions differ in terms of how 'social' their eliciting events are.

A number of theorists predict that old age brings with it a lessening need to interact with other people in various social situations. Psychoanalytic theories predict increasing introversion and egocentricity (Hartman, 1951; Lustman, 1957; Rapaport, 1951). Jung (1963) comments that younger people are more oriented towards the outside world, while older people tend to turn their energies toward exploring their internal worlds. Disengagement theory (Cumming & Henry, 1961) suggests that old age is accompanied by social withdrawal, along with an increased preoccupation with the self and a decreased emotional investment in other people. Hansson et al (1984) predict a decreasing social responsiveness with age and Malatesta and Izard (1984) comment that elderly people are no longer in positions where they need to interact with large numbers of people.

It can be argued that some emotions may be more 'social' than other emotions, in that they are more often elicited by social antecedent events (Scherer, 1986; de Rivera, 1984). If elderly people do, in fact, have lessened opportunities for social interaction it follows that they may feel these more 'social' emotions less frequently than younger individuals.

Emotions such as happiness, sadness, anger, disgust, and fear, while they are often experienced in a social context, or are elicited by social antecedent events, can also be experienced in the absence of people and can have non-social antecedents. One can be happy about achieving personal goals, sad about failing to achieve personal goals, angry at inanimate objects (e.g., lids that won't come off, doors that won't open), and at oneself, disgusted by unpleasant sights and smells, and fearful of noises at night, financial problems, living alone, and etc.

Emotions such as love, hatred, envy/jealousy, guilt, sympathy/compassion, shame/embarassment, however, are very rarely experienced without there being some kind of social elicitor present. Even when they are experienced in non-social contexts, they would usually have been elicited by a social antecedent event. The results of the current study show these emotions, with the exception of guilt and shame/embarassment, to be experienced less frequently by those aged over 80, and in the case of envy, by all subjects over the age of 70 years.

The fact that the 'social' emotions of guilt and shame/ embarassment are not experienced any less frequently by older people weakens this hypothesis somewhat but it is possible to provide some partial explanations for why this may have occurred within the context of the above argument. With respect to guilt, for example, elderly people may have reported experiencing similar amounts of this emotion as their younger counterparts due to its 'long lasting' nature. Many elderly subjects claimed to feel guilt about things they did long ago, rather than about more recent 'transgressions'. This tendency to 'carry' guilt over past events into the present may perhaps explain why this emotion wasn't experienced with any less frequency by older individuals.

In the case of shame/embarassment it appeared from the anecdotal evidence that older people were embarrassed merely by 'attention' from others. They experienced embarrassment if they were 'singled out' from the crowd, many subjects said they'd be embarrassed if they had to make a speech, or to talk to even a small group of people, while many others said that they would be embarrassed if they were 'given a prize' or otherwise honoured. There seemed to be a desire to merge into the background in a large number of the elderly who took part in this study. According to many elderly embarrassment was an emotion which occurred not in response to social mistakes on their part, but to being made centre of attention. In addition, most of the elderly subjects said that they felt 'embarrassment' rather than 'shame'. Shame was considered to be more akin to guilt by many subjects in this study, and like guilt it is an emotion which tends to remain long after the eliciting situation was over for many individuals.

The two emotions which were found to increase with age, disgust, and fear/anxiety, are perhaps the least 'social' emotions included in the current study. The current results revealed elderly people as a whole (70-91 year olds) to feel more disgust than their younger counterparts, and the very old (80-91 year olds) to feel more fear/anxiety than younger individuals.

Disgust can be elicited by a number of non-social antecedent events. Even when it is elicited by the actions of other people these actions do not necessarily need to have been directed towards the person experiencing the disgust. Disgust can be experienced through watching or hearing about the actions of people who have nothing to do with us personally.

Fear/anxiety also, while it can be elicited by other people, can be elicited by a wide range of non-social antecedent events. Even when it is elicited by another person it often is not in a 'social' context (many elderly people expressed a fear of 'young people in gangs', 'prowlers', and etc.). It should be noted that Scherer (1986), in a study which attempted to determine which emotions were the most 'social', examined the specific social and non-social antecedents for four emotions, joy, sadness, anger and fear, found fear to have the lowest proportion of social and 'relationship' antecedents.

The third question addressed in the current study was *"Do people experience less emotion overall as they grow older?"* It should be noted here that, while there appeared to be no difference between the middle-aged, the young-old, and the old-old groups, when the old-old group was divided it emerged that the 'very old' group reported experiencing every emotion except fear less frequently than any other group. Once again this may be related to the possible lessening of opportunities for social interaction for the very elderly. For, as is pointed out by Strongman (1987)

"Emotion is a social phenomenon. For the most part the stimuli for emotional reactions come from other people and emotion occurs in the company of others" (Strongman, 1987, p.167)

It seems to make sense that older people may experience most emotions less frequently than younger people, not because of any 'biological' deficits, or 'lessening of affective energy' but simply because they have less opportunity to interact with other people, and so less opportunity to be in emotion eliciting situations. This would seem to be especially so for the very old.

2-2. Intensity of Emotional Experience

Implicit in most theoretical formulations concerning emotional functioning is the prediction that there will be a decrease in the intensity of emotional experience with age. (Banham, 1951; Hartman, 1951; Izard, 1971; Lustman, 1957; Rapaport, 1951; Solomon, 1980; Tomkins, 1962, 1963). From these speculations arose the question *"Do people experience emotions less intensely as they grow older?"* and the related question: *"Do the older-elderly experience less intense emotions than the younger-elderly and middle-aged individuals"*

Unfortunately, the results of the current study do not provide clear answers to these questions. Between-group comparisons of the AIM scores revealed a slight linear decrease in emotional intensity with age, with the difference between the middle-aged and oldest groups' scores showing a trend toward significance. There were no differences found in the comparison of the two sub-groups within the oldest group. A similar trend to that found in the AIM scores emerged in Section C-Overall scores with between group comparisons revealing a linear decrease in intensity of emotional experience. However this decrease was only very slight and did not approach significance.

While a number of indirectly related studies from the projective test and subjective well-being literature suggest that emotions become less intense with age (Birren et al., Braun, 1977; 1963; Costa et al., 1988; Lakin & Eisdorfer, 1960; Rosen & Neugarten, 1960) only three studies to date have directly addressed the question of whether there are age-related changes in emotional intensity (Diener, Sandvik, and Larsen, 1985; Malatesta and Kalnok, 1984; Malatesta et al., 1987).

Diener et al's (1985) results indicate that there is an age-related decrease in affect intensity, while Malatesta and Kalnok's (1985) results find no evidence to suggest that affect intensity decreases with age. A study by Malatesta et al (1987) also addressed the question of age-related changes in affect intensity within the context of a study concerning emotion communication in adulthood. This study, like Malatesta and Kalnok (1984) reveals no indication of an age-related decrease in emotional intensity.

As was suggested in the Introductory section (Chapter One) these conflicting results may have occurred because of differences in the 'directness' of the measures used to tap the construct of affect intensity. The two studies by Malatesta and her colleagues (Malatesta & Kalnok, 1984;

Malatesta et al., 1987) asked their subjects to directly rate the intensity of various emotions, whereas Diener et al measured intensity in a more indirect fashion, with no explicit instructions requiring respondents to specifically rate their level of emotional intensity being given. In the AIM (Larsen, 1984), for example, many of the items present a commonly occurring emotion eliciting situation and inquire as to the subject's typical emotional response to such situations. It was suggested that this method might provide a more 'true' picture of affect intensity because it minimises the influence of global self-concept and social desirability. Unfortunately, while there was a more distinct linear trend indicating decreasing intensity apparent in the AIM scores, no real differences emerged between the AIM results and the results of Section C-overall, the more 'direct' measure, in the current study.

The current results, then, do little to help clarify the question of whether affect intensity decreases with age. There is a slight trend towards a significant difference between the older and middle-aged groups, with older people indicating that they feel emotion less intensely than their younger-aged counterparts. However, any conclusions drawn from these results must be treated with caution due to the fact that the differences found between the age groups on the AIM scores did not reach significance at .05 level.

The trend in the results indicating a *possible* age-related decrease in emotional intensity is in line with the formulations of a number of theorists (Banham, 1951; Hartman, 1951; Izard, 1977; Lustman, 1957; Rapaport, 1951; Solomon, 1980; Tomkins, 1962, 1963), although the support it offers for these ideas is somewhat tenuous. Early theorists suggested that this decrease in affect intensity may be due to a decrease in what they called 'affective energy' (Banham, 1951; Lustman, 1957; Hartman, 1951; Rapaport, 1951). More recently theorists have posited that an age-related decrease in affective intensity may occur due to older people being 'habituated' to commonly occurring emotion eliciting events, so that when they do experience emotion in response to these events it is less intense than that experienced by younger people (Tomkins, 1962, 1963; Solomon, 1980).

Diener et al (1985) provide some further ideas concerning why affect intensity may decrease with age. They suggest, for example that it may be due to cultural expectations. Older persons may be expected to be more 'mature' and less emotional and because of this they may dampen their

emotional responses in various ways, whereas younger persons may use strategies that amplify their emotional responses. Another suggestion is that younger adults may be more willing to admit more extreme emotions. However, it should be noted that the AIM correlates well with physiological indexes, behavioural reports, and reports by others, thus making this possibility an unlikely one.

Another question which arises concerning age-related changes in affect intensity is *"Are there age-related changes in the intensity of specific emotions, and if so, in which emotions do these changes occur?"* Results suggest that there may be age-related shifts in the intensity of four specific emotions. The young-old group reported feeling disgust and fear/anxiety *more* intensely than did either the middle-aged or the old-old group. The oldest group reported experiencing anger and interest/excitement *less* intensely than did the middle-aged and younger groups who did not differ. A sub-group comparison between those aged 70-79 and those aged 80 and above revealed no further differences in the intensity of specific emotions between those aged 70-79 and those aged 80-91..

While there have been no age-comparative studies which have addressed this issue Diener et al (1985) did examine the intensity of specific emotions within the context of a study examining daily moods. The results of this study were somewhat in conflict with the current findings, revealing a strong covariation of intensity scores across very dissimilar emotions (happiness, anger, fear, and depression). The authors concluded that affect intensity is a broad individual difference characteristic that generalises across specific emotional domains.

Because there has been very little theoretical work concerning the possibility that age-related changes in emotional intensity may be affect specific it is difficult to provide any satisfactory theory-based explanations for the findings of the current study. In addition, because there has been a similar lack of empirical work in this area, there are no other studies which provide support for the results of the current research. In view of these points, and bearing in mind that Diener et al (1985) failed to find any evidence of affect intensity differing across emotions, it may be somewhat premature to speculate about the possible reasons why the current pattern of results may have occurred until these results prove replicable.

2-3. Control of Emotion Expression

Theory suggests that in order to live peaceably in the adult world emotions must be concealed to a certain degree, and that rules and regulations exist in order to ensure this (Izard, 1977; Tomkins, 1962, 1963). Theory also suggests that as people grow older they learn to modulate their expression of emotion (Izard, 1977; Tomkins, 1962, 1963). Such speculations led to the question "*Are there age-related display rules concerning emotional expression, and are these rules more constrictive for older people than for younger individuals?*". Results support the predictions of theorists, with scores for Section E-Overall showing older people to agree more than young-olds and middle-aged individuals that people their age should try to conceal emotion. It appears that, like other-age individuals, elderly people perceive the existence of age-related display rules; however, the elderly seem to perceive these rules as being more constrictive. These findings are in line with both of the studies to date which have dealt with this issue (Malatesta, 1982; Malatesta & Kalnok, 1985).

A further question which is addressed concerning display rules is: "*If such rules exist, are they equally applicable to all emotions, or are they emotion specific?*" When emotions were analysed separately in the current study it emerged that older people agreed that people of their age should hide feelings of hatred, fear/anxiety, anger, shame/embarrassment, disgust and sadness more than did young-old and middle-aged individuals. This pattern of results indicates that display rules appear to be organised around certain types of emotion rather than emotion *per se*.

Both Malatesta (1982) and Malatesta and Kalnok (1984) reported similar findings. Their results suggest, like those of the current study, that older individuals think people of their age should hide anger, sadness, disgust, and shame/embarrassment. Some differences did emerge however. Both Malatesta (1982) and Malatesta and Kalnok (1984) found that age-related display rules affected happiness and interest/excitement, with older people agreeing more than younger people that these emotions should be hidden. In the current study this did not occur. In addition the current study revealed fear to be an emotion which older people felt should be hidden, whereas Malatesta (1982) and Malatesta and Kalnok (1984) did not.

There is a definite pattern to the results of the current research, with all the emotions which the elderly groups considered should be concealed

being 'negative' emotions. These results are perhaps more in line with theoretical predictions concerning emotional regulation for the purpose of 'peaceful' co-existence with fellow humans than those of Malatesta (1982) and Malatesta and Kalnok (1984). It is the negative emotions which are the most dangerous, and on which one would hypothesise that people would place the most constrictions with respect to expression. If display rules become more constrictive with age then common sense suggests that it would be these emotions which such rules would most affect.

From the question concerning display rules arose the related question *"Are there age-related differences in the degree to which people try to control their expression of emotion?"*. Most theoretical formulations predict that older people will be less overt in their expression of emotion due to socialisation pressures and cultural norms. The results of the current study, however, do not provide much support for these predictions, finding no general shift in how much people think they try to conceal their emotions with age.

It must be noted though, that Section C-Overall was not subjected to reliability and validity testing as a scale for measuring the degree of control people exert over the control of their expression of their emotion in general, thus results must be considered with some caution. However, it provided mean scores from ratings for control exerted over individual emotions, and it can be assumed that if one group was reporting that they exert more control over the majority of emotions then this would be reflected in the overall findings.

Only three other studies have directly considered this issue (Malatesta and Izard, 1984; Malatesta & Kalnok, 1984; Malatesta et al, 1987). In accordance with the present study, Malatesta and Kalnok (1984) showed older adults to report no greater inhibition of emotional expression than younger and middle-aged adults. Malatesta and Izard (1984), on the other hand, showed older people to engage in behaviours which decrease the overtness of emotional expression twice as much as younger and middle-aged individuals.

The results of Malatesta et al (1987) are somewhat difficult to interpret, since although they suggest that there are no age-related differences in the parameters of facial expressivity, the authors point out that statistical problems related to the encoding-decoding paradigm may have obscured any existing effects. This suggestion is made more plausible by the fact that Malatesta and Izard (1984), using the same subject sample and the same

videotaped facial expressions, did report a number of age-related differences in the facial expression of emotion.

It is possible that the results of the current study, and of Malatesta and Kalnok, (1984) may conflict with those of Malatesta and Izard (1984), and possibly those of Malatesta et al (1987), because of methodological differences. In the current study, as in Malatesta and Kalnok (1984), the degree to which people conceal their emotions was measured by directly asking the people involved, whereas in Malatesta and Izard (1984) and Malatesta et al. (1987) subjects' emotional expressions were observed and recorded by others after the emotions had been induced using a recall induction technique. It is possible that the subjects in these two studies may not have been reacting as they would in everyday emotion eliciting situations. Because of the 'strangeness' of the situation - being in a 'laboratory' and being watched by a video camera, the subjects may have attempted to conceal some of their emotions more than they normally would. This may have been especially so for the older subjects, for whom the situation would have been even more alien.

A related question asked in the current study was: *"Is the same amount of control exerted over all emotions, or does it differ from emotion to emotion?"* The results did reveal some age-related differences with regards to the control of a few specific emotions, although there seemed to be no pattern to the kinds of emotions which were, or were not, concealed by the various age-groups. Young-old and old-old individuals reported trying to hide feelings of interest/excitement and anger more than did younger people, and young-old people reported hiding guilt less than younger and older people.

Once again, as with the results concerning the intensity of specific emotions, because of the dearth of theoretical and empirical work concerning the possibility of age-related differences in the control of individual emotions it is difficult to provide even speculative reasons for why the above pattern of results may have occurred. It should be noted, however, that the two emotions which are 'hidden' more by elderly people than by the middle-aged are the same emotions which were reported to be felt with less intensity by older people in Section C; anger and interest/excitement. If this result is considered in light of Izard's facial feedback hypothesis it is possible to speculate that interest/excitement and anger may have been experienced less intensely by these individuals because

they were expressed less overtly. However, we are still left with the question of *why* more control seems to be placed on their expression.

The final question addressed in the current study is "*How much is the degree of control people exert over emotional expression related to their perception of age-related display rules?*". From the above discussion it seems there is very little relation between the two. Older people, although they perceive more constrictive rules regarding emotional expression, do not seem to control their emotional expression any more than younger people. This is line with the results of Malatesta and Kalnok (1985), the only other study which has considered this question.

The findings of the current research are also in line with the position of many theorists who suggest that as people age they become less concerned with conforming to social pressures concerning emotion control because they are less actively involved with other adults (Cumming & Henry, 1961; Hansson et al., 1984; Hartman, 1951; Jung, 1963; Lustman, 1957; Malatesta & Izard, 1984; Rapaport, 1951). As was noted by Izard and Malatesta (1984) social conventions regarding the expression of emotion may not be as important for older adults who no longer need to interact so closely or so frequently with a variety of other adults in important work and family related matters.

III. SUMMARY AND CONCLUSIONS

This study explored the possibility of age-related differences in the experience and the expression of emotion. Several age effects were found and from the results an overall view of emotional functioning in later life may be tentatively sketched out.

Results suggest that older people feel negative emotions no more frequently and positive emotions no less frequently overall than younger individuals, and that this holds true for the old-old segment of the population as well as for the young-old despite theoretical predictions to the contrary. However, age-related changes appear to exist in the frequency of people's experience of several specific emotions. The oldest group, as a whole, reported feeling less envy than the two younger groups, while both the young-olds and the old-olds reported feeling more disgust than their younger counterparts.

In a sub-group comparison of the oldest group those aged 80-91 years reported feeling sympathy/compassion, love, hatred, and envy less

frequently than younger individuals. It was noted that the emotions experienced less frequently by the elderly are primarily elicited by social antecedent events and it was suggested that this pattern of results may have occurred because of the reduction in the diversity of social contacts experienced by most elderly people.

Emotions overall appear to occur no less frequently for young-olds and middle-aged, or for old-olds. However, differences do emerge when sub-groups of oldest group are compared with those over 80 years of age appearing to experience every emotion except fear less frequently than their younger-aged counterparts. Once again, it was posited that this may have been related to the lessening of opportunities for social interaction experienced by the very old.

A slight trend toward a lessening of emotional intensity with age is apparent in the results, although this finding must be treated with due caution because the differences between the age groups did not reach significance. Results also suggested the possibility of age-related differences in the intensity of four specific emotions; anger, interest/ excitement, disgust, and fear/anxiety. The oldest group felt anger and interest/excitement less intensely than the two younger age-groups, while the young-old group felt disgust and fear/anxiety more intensely than both the middle-aged and the oldest groups.

Unfortunately because there has been very little theoretical work in the area it is difficult to provide any satisfactory theory-based explanations for these findings, especially since there appears to be no real pattern discernable in the results. It was pointed out that because of this, and because there have been no empirical studies with which to compare the results of the current research, it may be somewhat premature to speculate about the possible reasons why the current pattern of results may have emerged.

One interesting pattern did emerge when these results were compared with those concerning control of emotional expression. Those emotions which the elderly felt less intensely than any other age group, anger and interest/excitement, were the two emotions which they felt they concealed more than any other group. This result was discussed in terms of its relation to Izard's hypothesis that if an emotion is expressed less overtly then may also be experienced less intensely.

Finally, older people seem to perceive the existence of more constrictive age-related display rules concerning the expression of emotion,

especially the negative emotions. However, despite this they don't appear to place anymore control over the expression of their emotions than do younger individuals. This suggests that social constraints on the overt expression of emotion may have less impact on the actual emotional behaviour of older people than on the behaviour of younger people. This finding was discussed in relation to the position held by many theorists that conforming to society's dictates in order to 'fit in' with one's social group may not be so important for elderly persons.

IV. LIMITATIONS OF THE CURRENT RESEARCH

Perhaps the most significant limitation of this study was the use of a non-probability sampling technique, non-random referral or 'snowballing'. Because potential subjects were suggested by an initial group of individuals known to the researcher this may have biased the sample toward people with similar demographic backgrounds (i.e., middle-class, educated, etc.). However, this possible biasing effect may have been diluted somewhat as each successive 'wave' of subjects recommended other individuals who they thought may be willing to participate in the study.

In addition respondents may only have recommended those individuals who they assumed would be happy to spend time filling out a questionnaire, thus biasing the sample towards people who are more sociable and willing to 'give things a go'. Another possible limitation was the relatively small sample size ($N = 150$). A larger sample would have allowed for greater generalisability of the results and would have provided greater control for the influence of the factors mentioned above.

In addition there were a number of limitations inherent in the questionnaire itself. Some of these have already been pointed out previously but should be mentioned again here. For example, Sections C, D, and E were not primarily designed as scales to measure overall emotional intensity, the degree of control exerted over emotion in general, and people's general perception of age-related display rules, and no attempts were made to ascertain their reliability or validity as such. Their main purpose was to provide information concerning peoples' experience of the 12 individual emotions included in the study. All these 'measures' provided for each subject was a mean score of the scores assigned to each of these individual emotions. Thus the results concerning 'emotion in general' need to be considered with due caution. Nevertheless, it seems probable that any age-related differences in people's overall emotional

intensity, control of emotional expression, and perception of display rules existed they would have been reflected in the overall mean scores.

In addition two of the 'emotion categories' presented difficulties for the subjects. 'Interest/excitement' and 'shame/embarrassment' were both considered too general as descriptors of single emotional state by some individuals... Subjects found it difficult to decide how to provide responses to items involving these emotions because they felt they were dealing with two separate affects in each case rather than one. It is possible this may have also been the case for 'fear/anxiety' and 'envy/jealousy' although none of the subjects expressed difficulty with these.

V. DIRECTIONS FOR FUTURE RESEARCH.

Research examining the emotional functioning of adults in later life is still largely in its early stages and little knowledge currently exists. The current study raises several issues which could be explored in future research. These will be discussed under the three main area headings, frequency of emotional experience, intensity of emotional experience, and control of emotional expression.

5-1. Frequency of Emotional Experience.

The current study, in line with other research in the area, found older people to experience no more negative and no less positive affect states than younger individuals. Schulz (1985) suggests that this may be because the factors which combine to suggest an increase in negative affect with age are offset by changes in the individual's reference group and expectation levels. An interesting direction for future research would be to attempt to empirically 'test' this hypothesis.

In the current study age-differences were apparent in the frequency with which people experience a number of discrete emotions. An important next step would be to attempt to replicate these findings using a larger and more heterogeneous sample. Another possibility for future research would be to test empirically the hypothesis that older people will experience emotions which are predominantly elicited by social situations less frequently than younger people. Before this is possible it will need to be more firmly established which emotions these are and why they should be more likely to be socially elicited than other emotions.

The current results suggest that those over the age of 80 years experience less emotion in their daily lives than younger individuals, in other words, that they react emotionally to fewer stimuli in their environment. Such a finding has important implications for the aging personality, socially and emotionally. Once again an important next step is to attempt to replicate these findings. Further support must be provided for this hypothesis before drawing any firm conclusions.

5-2. Intensity of Emotional Experience

In the current study there was a slight trend in the results which suggested that affect intensity decreases with age. Further research needs to be done in this area in order to clarify whether affect intensity changes, or remains stable, during the later years of life. It was tentatively suggested that a measure such as the AIM which does not specifically ask the subjects to rate their actual affect intensity may provide a more 'true' reflection of the degree of intensity with which they feel emotion. Before further research can be done concerning age-related changes in affect intensity it will be necessary determine more firmly the type of measure which most accurately taps the construct.

The results of the current study were somewhat confusing concerning the differences which emerged between the age groups in the intensity of their experience of several specific emotions. An attempt should be made to provide a replication of these findings before drawing any conclusions concerning the reasons for why such a pattern may have occurred and what implications this may have for adult emotional functioning.

5-3. Control of Emotional Expression

In the current study age-differences were apparent in the degree to which people exert control over a number of discrete emotions. An important next step would be an attempt to replicate these findings using a larger and more heterogenous sample.

The results of the current study suggested that those emotions which elderly people concealed more than younger individuals were also those emotions which they reported feeling less intensely. This result was in line with Izard's (1971, 1977) facial feedback hypothesis and if it proved replicable it would have some important implications for the experience of emotion in adulthood. Thus another interesting direction for future research would

be to further explore the possibility that emotions which people conceal more are also felt less intensely.

Finally, the current results suggested, in line with past research findings, that older people do not seem to conform to age-related display rules, despite perceiving them as being more constrictive than younger people. It was hypothesised that this may have occurred because older people are less actively involved with other adults and so feel less pressure to conform to society's dictates regarding emotion control. It would perhaps be interesting to investigate this idea empirically.

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APPENDIX A

EMOTIONS QUESTIONNAIRE

The items in this questionnaire concern people's experience of emotion in their everyday life. Please base your answers on how YOU feel, not on how you think others feel. Please read each item CAREFULLY before answering.

SECTION A.

DIRECTIONS: This section of the questionnaire is concerned with the frequency with which people experience certain emotions in their daily lives. Please indicate how often you think YOU experience each of the emotions listed below in your day to day life by placing a number from the following scale in the blank space provided before each emotion word.

	Never	Almost never	Occasion- ally	Often	Almost always	Always
	1	2	3	4	5	6
1.	_____					
						ANGER
2.	_____					
						SADNESS
3.	_____					
						SHAME/EMBARRASSMENT
4.	_____					
						INTEREST/EXCITEMENT
5.	_____					
						DISGUST
6.	_____					
						FEAR/ANXIETY
7.	_____					
						GUILT
8.	_____					
						SYMPATHY/COMPASSION
9.	_____					
						LOVE
10.	_____					
						ENVY/JEALOUSY
11.	_____					
						HAPPINESS
12.	_____					
						HATRED

SECTION B.

DIRECTIONS: This section is concerned with the intensity with which people experience certain emotions in their daily lives. Please indicate how often you think YOU have the kinds of emotional experiences described below by placing a number from the following scale in the blank space provided before each item. Please read each item CAREFULLY.

Never	Almost never	Occasion- ally	Often	Almost always	Always
1	2	3	4	5	6

1. _____ When I accomplish something difficult I feel delighted or elated.
2. _____ When I feel happy it is a strong type of exuberance.
3. _____ I enjoy being with other people very much.
4. _____ I feel pretty bad when I tell a lie.
5. _____ When I solve a small personal problem I feel euphoric.
6. _____ My emotions tend to be more intense than those of most people.
7. _____ My happy moods are so strong that I feel like I am in heaven.
8. _____ I get overly enthusiastic.
9. _____ If I complete a task I thought was impossible I am ecstatic.
10. _____ My heart races at the anticipation of some exciting event.
11. _____ Sad movies touch me deeply.
12. _____ When I am happy it's a feeling of being untroubled and content rather than being zestful and aroused.
13. _____ When I talk in front of a group for the first time my voice gets shaky and my heart races.
14. _____ When something good happens, I am usually much more jubilant than others.
15. _____ My friends might say I am emotional.
16. _____ The memories I like the most are of those times when I felt content and peaceful rather than zestful and enthusiastic.

Never Almost Occasion- Often Almost Always
 1 2 ally 4 always 6
 1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6

17. _____ The sight of someone who is hurt badly affects me strongly.
18. _____ When I'm feeling well it's easy for me to go from being in a good mood to being really joyful.
19. _____ "Calm and cool" could easily describe me.
20. _____ When I'm happy I feel like I am bursting with joy.
21. _____ Seeing a picture of some violent car accident in a newspaper makes me sick to my stomach.
22. _____ When I'm happy I feel very energetic.
23. _____ When I receive an award I become overjoyed.
24. _____ When I succeed at something my reaction is calm contentment.
25. _____ When I do something wrong I have strong feelings of shame and guilt.
26. _____ I can remain calm even on the most trying days.
27. _____ When things are going good I feel "on top of the world".
28. _____ When I get angry it's as easy for me to still be rational as to overreact.
29. _____ When I know I have done something very well I feel relaxed and content rather than excited and elated.
30. _____ When I do feel anxiety it is normally very strong.
31. _____ My negative moods are mild in intensity.
32. _____ When I am excited over something I want to share my feelings with everyone.
33. _____ When I feel happiness it is a quiet type of contentment.
34. _____ My friends would probably say I'm a tense or "high strung" person.
35. _____ When I am happy I bubble over with energy.

Never	Almost never	Occasion- ally	Often	Almost always	Always
1	2	3	4	5	6

36. _____ When I feel guilty, this emotion is quite strong.
37. _____ I would characterise my happy moods as closer to contentment than joy.
38. _____ When I am nervous I get shaky all over.
39. _____ When someone compliments me, I get so happy I could "burst".
40. _____ When I am happy the feeling is more like contentment and inner calm than one of exhilaration and excitement.

SECTION C.

DIRECTIONS: The items in this section are also concerned with the intensity with which people experience emotions in their daily lives. Please indicate how intensely you think YOU usually experience each of the emotions listed below by placing a number from the following scale in the blank space before each emotion word.

Very strongly 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 Very mildly

1. _____ DISGUST
2. _____ LOVE
3. _____ ENVY/JEALOUSY
4. _____ GUILT
5. _____ FEAR/ANXIETY
6. _____ SADNESS
7. _____ HATRED
8. _____ SHAME/EMBARRASSMENT
9. _____ ANGER
10. _____ INTEREST/EXCITEMENT
11. _____ SYMPATHY/COMPASSION
12. _____ HAPPINESS

SECTION D.

DIRECTIONS: The items in this section are concerned with how much people think they should let other people know about the emotions they are feeling. Please indicate how much YOU tend to let other people know how you are feeling by placing a number from the scale below in the blank space before each item. Please read each item CAREFULLY.

Not at all	Almost never	Occasion- ally	Usually	Almost always	Always
1	2	3	4	5	6

1. _____ When you are HAPPY do you try to hide your feelings from other people?
2. _____ When you are DISGUSTED do you try to hide your feelings from other people?
3. _____ When you are SAD do you try to let other people know how you feel?
4. _____ When you are ASHAMED/EMBARRASSED do you try to hide your feelings from other people?
5. _____ When you are FEARFUL/ANXIOUS do you try to let other people know how you feel?
6. _____ If you are feeling GUILTY do you try to hide these feelings from other people?
7. _____ When you are INTERESTED/EXCITED do you try to let other people know how you feel?
8. _____ When you feel HATRED for someone do you try to let other people know how you feel?
9. _____ When you feel ENVY/JEALOUSY do you try to hide your feelings from other people?
10. _____ When you feel LOVE for someone do you try to let other people know how you feel?
11. _____ When you feel ANGER do you try to hide your feelings from other people?
12. _____ When you feel SYMPATHY/COMPASSION do you try to let other people know how you feel?

SECTION E.

DIRECTIONS: The items in this section are concerned with how much people feel certain emotions should be hidden by those in their own age group. Please indicate how much YOU agree with the following statements by placing a number from the scale below in the blank space before each item.

Agree very strongly	Agree strongly	Agree moderately	Disagree moderately	Disagree strongly	Disagree very strongly
1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

1. _____ A man/woman my age should hide HATRED when he/she feels it.
2. _____ A man/woman my age should hide FEAR/ANXIETY when he/she feels it.
3. _____ A man/woman my age should hide SYMPATHY/COMPASSION when he/she feels it.
4. _____ A man/woman my age should hide ANGER when he/she feels it.
5. _____ A man/woman my age should hide GUILT when he/she feels it.
6. _____ A man/woman my age should hide HAPPINESS when he/she feels it.
7. _____ A man/woman my age should hide EMBARRASSMENT/SHAME when he/she feels it.
8. _____ A man/woman my age should hide DISGUST when he/she feels it.
9. _____ A man/woman my age should hide INTEREST/EXCITEMENT when he/she feels it.
10. _____ A man/woman my age should hide SADNESS when he/she feels it.
11. _____ A man/woman my age should hide ENVY/JEALOUSY when he/she feels it.
12. _____ A man/woman my age should hide LOVE when he/she feels it.

APPENDIX B

BACKGROUND INFORMATION SHEET

NAME: _____

DATE OF BIRTH: ____/____/____

SEX: _____

MARITAL STATUS

Married ☐ Widowed ☐ Divorced ☐ Single ☐

EMPLOYMENT

Employed ☐ Unemployed ☐ Retired ☐

INCOME

High ☐ Middle ☐ Low ☐

HEALTH

Do you consider your state of health to be

Very good ☐ good ☐ moderate ☐ poor ☐ very poor ☐

APPENDIX C

**DESCRIPTIVE STATISTICS SUMMARY
TABLES**

Summary Statistics Table for Section A (Frequency of Experienced Emotions)

	Mean Frequency Ratings		F - Values	
	Middle-aged	Young-old	Old-old	Between Groups Comparison
Anger	2.720	2.580	2.460	1.667
Sadness	2.740	2.960	3.040	2.232
Shame/Emb	2.380	2.320	2.200	0.696
Inter/Exc	3.880	3.760	3.600	1.363
Disgust	2.340	2.720	2.760	4.096 **
Fear/Anx	2.620	3.000	2.740	2.490
Guilt	2.320	2.360	2.040	2.420
Symp/Comp	3.640	3.840	4.000	1.635
Love	4.160	4.280	4.320	0.287
Envy/Jealousy	2.080	1.920	1.680	3.537 *
Happiness	4.220	4.240	4.100	0.319
Hatred	1.600	1.600	1.630	0.033

NOTE: Scores could range between 1 and 6. The upper end of the scale represents a high frequency rating, while the lower end represents a low frequency rating for each emotion.

* P < 0.05 ** P < 0.01

Summary Statistics Table for Section A (Comparisons Between 70-79 year olds and 80-91 year olds).

	Mean Frequency Ratings		T - Values
	70-79 years	80-91 years	Between Groups
Anger	2.556	2.222	1.319
Sadness	3.056	2.889	0.760
Shame/Embarrassment	2.167	2.000	0.589
Interest/Excitement	3.611	3.500	0.376
Disgust	2.833	2.278	1.902
Fear/Anxiety	2.944	3.500	2.204 *
Guilt	2.389	2.167	0.624
Sympathy/Compassion	4.556	3.722	2.303 *
Love	4.944	2.333	8.211 ***
Envy/Jealousy	2.167	1.333	3.073 **
Happiness	4.444	4.278	0.461
Hatred	1.833	1.278	2.793 **

NOTE: Scores could range between 1 and 6. The upper end of the scale represents a high frequency rating while the lower end represents a low frequency rating for each emotion.

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

Summary Statistics Table for Sections B and C (Intensity of Experienced Emotions)

	Mean Intensity Ratings			F Values
	Middle-Aged	Young-Old	Old-Old	Between Groups
AIM scores	3.500	3.492	3.244	2.547
C-Overall	3.614	3.668	3.416	1.798
Disgust	3.460	4.280	3.960	3.183 *
Love	4.660	4.400	4.380	0.672
Envy/Jealousy	1.900	2.200	1.920	0.795
Guilt	3.480	3.660	3.100	1.465
Fear/Anxiety	3.280	3.920	3.300	3.097 *
Sadness	4.120	4.320	4.240	0.273
Hatred	2.020	2.160	1.860	0.538
Shame/Emb	2.960	3.020	2.660	0.876
Anger	3.540	2.980	2.580	5.902 **
Interest/Exc	4.560	4.080	4.040	3.141 *
Symp/Comp	4.600	4.600	4.800	0.527
Happiness	4.660	4.320	4.520	0.982

NOTE: Scores could range between 1 and 6. The upper end of the scale, both for the AIM and Section C , represents a high intensity rating, while the lower end represents a low intensity rating.

$P < 0.05$ ** $P < 0.01$

Summary Statistics Table for Sections B and C (Comparisons between 70-79 year olds and 80-91 year olds)

	Mean Intensity Ratings		T - Values
	70-79 years	80-91 years	Between Groups
AIM scores	3.311	3.144	0.673
C-Overall	3.583	3.322	1.136

Summary Statistics Table for Section D (Control of Emotional Expression).

	Mean Control Ratings			F-Values
	Middle-Aged	Young-Old	Old-Old	Between Groups
D-Overall	3.592	3.508	3.436	0.886
Happiness	5.220	5.040	4.880	1.196
Disgust	4.040	3.960	3.820	0.357
Sadness	3.240	2.920	2.460	6.235 **
Shame/Embarrassment	2.800	3.020	3.120	0.820
Fear/Anxiety	2.840	2.640	2.820	0.538
Guilt	3.080	3.760	3.460	3.035 *
Interest/Excitement	4.460	3.940	3.980	3.991 *
Hatred	2.320	2.100	1.980	1.398
Envy/Jealousy	2.640	2.860	3.100	1.069
Love	3.960	3.780	4.020	0.445
Anger	3.400	3.280	2.900	2.048

NOTE: Scores could range between 1 and 6. The upper end of the scale represents open expression of emotion while the lower end of the scale represents concealment of emotional expression.

* P < .05 ** P < .01

Summary Statistics Table for Section D (Comparison Between 70-79 year olds and 80-91 year olds)

	Mean Control Ratings		T - Values
	70-79 years	80-91 years	Between Groups
D-Overall	3.511	3.617	1.721
Happy	4.944	5.167	0.635
Disgust	3.611	3.889	0.627
Sadness	2.556	2.111	1.370
Shame/Embarrassment	2.778	2.944	0.421
Fear/Anxiety	3.000	2.833	0.419
Guilt	3.667	3.333	0.644
Interest/Excitement	4.333	3.611	1.529
Hatred	1.556	1.944	1.214
Envy/Jealousy	2.944	2.778	0.219
Love	4.333	4.222	0.253
Anger	2.778	2.778	0.000
Sympathy/Compassion	4.778	4.278	1.206

NOTE: Scores could range between 1 and 6. The upper end of the scale represents open expression of emotion while the lower end represents concealment of emotion.

Summary Statistics Table for Section E (Agreement with Display Rules)

	Mean Agreement Ratings			F-Values
	Middle-Aged	Young-Old	Old-Old	Between Groups
E-Overall	4.232	3.964	3.678	7.714 ***
Hatred	2.860	2.640	2.020	7.900 ***
Fear/Anxiety	3.940	3.600	3.200	5.230 **
Sympathy/Compassion	5.120	4.740	4.700	2.063
Anger	3.820	3.340	2.660	11.156 ***
Guilt	3.640	3.660	3.480	0.359
Happiness	5.180	5.140	4.900	1.081
Shame/Embarrassment	3.700	3.580	3.060	3.806 *
Disgust	4.060	3.740	3.260	5.319 **
Interest/Excitement	5.200	4.700	4.760	3.016 *
Sadness	4.820	4.560	3.920	9.421 ***
Envy/Jealousy	2.740	2.800	2.420	1.145
Love	5.360	5.040	5.180	0.254

NOTE: Scores could range between 1 and 6. The upper end of the scale represents disagreement with the statements that "people my age should conceal (emotion)", and the lower end represents agreement.

* $P < 0.05$ ** $P < 0.01$ *** $P < .0001$

Summary Statistics Table for Section E (Comparison Between 70-79 year olds and 80-91 year olds)

	Mean Agreement Ratings		T-Values
	70-79 years	80-91 years	Between Groups
Hatred	2.444	2.167	0.799
Fear/Anxiety	2.889	3.444	1.399
Sympathy/Compassion	4.778	4.389	0.763
Anger	2.389	2.944	1.385
Guilt	3.333	3.056	0.709
Happiness	5.222	4.611	1.283
Shame/Embarrassment	3.389	2.667	1.655
Disgust	3.167	3.278	0.226
Interest/Excitement	4.889	4.722	0.415
Sadness	4.167	3.500	1.666
Envy/Jealousy	2.556	2.056	0.994
Love	5.500	4.889	1.571

NOTE: Scores could range between 1 and 6. The upper end of the scale represents disagreement with the statement that "people my age should conceal (emotion)", and the lower end represents agreement.